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ORIGINAL ARTICLES.

ON EARLY TAPPING IN CASES OF ASCITES.

BY AUSTIN FLINT, M.D.

[Read at the meeting the of Section on Medicine of the British Medical Association, in Liverpool, August 2, 1883.]

MR. PRESIDENT AND GENTLEMEN: The subject which I have selected for a short paper cannot, perhaps, be said to belong in the higher regions of pathology and practice, but it is one which, as it seems to me, has considerable material importance.

Most writers on practical medicine at the present time, as in the past, recommend tapping, in cases of ascites, as a last resort, to be employed only when the dropsical accumulation has occasioned an alarming interference with respiration, and after other measures of treatment have proved ineffectual.[1] The practice of most physicians now, as hitherto, I suppose to be in accordance with this recommendation. Many years ago I was led by reasoning and by clinical observation to advocate tapping early in cases of that affection. In 1863 I communicated for the *American Journal of Medical Sciences* an article entitled "Clinical Report on Hydro-peritonæum Based on an Analysis of Forty-six Cases." The histories of these forty-six cases I had recorded. The results of the analysis seemed to show the utility of tapping early and as often as the dropsy returned. Since the date of that report, in the cases which have come under my observation in hospital and in private practice, I have pursued this course of treatment, and the results have appeared to confirm its utility.

The objections brought against tapping early, and it may be, repeatedly, in cases of ascites, are—

1st. It is liable to be followed by alarming prostration, and it may even prove fatal in subjects greatly enfeebled.

2d. It sometimes proves fatal by inducing peritonitis.

3d. Relief procured by tapping is usually but temporary, the dropsy, as a rule, speedily returning.

4th. With every return of the dropsy a lage quantity of albumen is withdrawn from the blood. The vital forces are thereby impaired, and, although temporary relief may be obtained, the duration of life is shortened.

In no instance under my observation has either a fatal result or alarming prostration followed tapping. On the contrary, relief, immediate and pronounced, has been invariable. I have met with but a single instance in which peritonitis was induced by tapping. In that instance, ascites from cirrhosis was associated with general dropsy from chronic Bright's disease, the latter, as is well known, involving a predisposition to inflammation of serous structures.

All danger in the direction of either exhaustion or peritoneal inflammation is probably avoided if, instead of the ordinary mode of tapping, aspiration be employed. The slowness with which the liquid is withdrawn by aspiration, obviates any risk of exhaustion, and the insignificant puncture with a small trochar can hardly give rise, in any case, to peritonitis.

Two objections may be raised to aspiration. One of these is the length of time required for the operation, and the fatigue on the part of the operator, in removing by this method a large quantity of liquid. It is an answer to this objection that the manual part of aspiration does not call for a skilled hand, and therefore, the assistance of a nurse or an attendant may be made available. The other objection is the inconvenience often of having at hand an aspirator. This objection is met by substituting for the beautiful but cumbersome apparatus of Dieulafoy, or the adaptation of the stomach pump by Braditel, a very simple arrangement which I devised many years ago for thoracentesis. The instrument used is that known in the United States as Davidson's syringe.[1] It consists of an India rubber hollow ball of a size to be readily grasped by the hand, connected with which are two India rubber tubes. By the introduction within the base of moveable valves, one of the tubes is made afferent, and the other efferent. At the end of the afferent tube is an attachment for connecting with it a small counter. The aspiration through this tube is effected by the expansion of the central ball, and the latter by compression with the hand, is emptied through the efferent tube. For thoracentesis and all other applications of aspiration, this homely instrument is all that could be desired, except in an æsthetic point of view. Its advantages are its cheapness, its portability, its durability, and its being always in order for immediate use.

The more important of the objections which have been stated to tapping early and repeatedly in cases of ascites, are that the relief which it may afford is but temporary, and that life is shortened by the impairment of the vital forces consequent on the loss of the nutritive constituents of the blood.

Regarding these objections from a rational stand-

[1] As an exceptional instance I may mention the "Hand Book of Medicine," by Dr. Frederick T. Roberts.

[1] My instrument is called in England Higginson's Syringe.

point, the measures of treatment pursued by those who delay as long as possible tapping, are to be contrasted with the advantages of the latter. The measures other than tapping generally have for their object the removal or the diminution of the dropsy. The measures are sudorifics, diuretics, and hydrogogue cathartics. Sudorifics accomplish so little, that nothing is to be said in their favor. Very little can be said in favor of diuretics. The instances are rare in which much is accomplished by this class of remedies. Hydrogogue cathartics are more efficient. Elaterium, the pulvis purgans and the saline carthartics sometimes diminish considerably, and they may even remove the dropsy. Their uncertainty, however, must be admitted, and, when more or less effective, the object is usually accomplished slowly, not a little depression and perturbation being caused by their repetitions. Now, is it not a rational conclusion, inasmuch as by tapping the removal of the dropsy is effected with certainty within a few hours, or even minutes, the operation being harmless and giving very little pain, that this method of treatment is to be preferred? And in view of these advantages of tapping, why waste time in an endeavor to effect the object by drugs?

Here, as in regard to all therapeutical questions, an appeal must be taken from reason to experience. And in deductions from experience, as well as in rational conclusions, the different affections of which ascites is a symptom are to be taken into account. If the ascites be symptomatic of malignant disease, and where it depends on persistent occlusion of the portal vein from thrombosis, embolism, or the pressure of a tumor, tapping, as well as other measures for the removal of the dropsy, cannot be expected to promise often more than temporary relief. But in the cases falling in this category, it has seemed to me evident that life is prolonged by tapping, repeated as often as need be; and, on the other hand, life has seemed to me to have been shortened by the use of depressing and perturbating drugs. In the great majority of cases, as is well known, cirrhosis of the liver is the affection having a causative relation to the dropsy. Now, in a certain proportion of these cases, the dropsy is dependent on auxiliary causes cooperating with the hepatic lesion. Anæmia, anorexia, impaired digestion, etc., the effects of alcoholism or of other agencies, are more or less involved in the causation of ascites. Without these auxiliary causes, dropsy would not have occurred, and the cirrhosis perhaps would have been well tolerated. These coöperating causes are often, to a greater or less extent, removable. The discontinuance of spirit-drinking may sometimes suffice for their removal. These statements are based on the study of cases which I have recorded. Let the tapping be resorted to as soon as the dropsy occasions notable inconvenience; let auxiliary causes be removed as far and as soon as practicable; let the patient be placed on a tonic and analeptic treatment; let depressing and perturbating drugs be avoided; let tapping be promptly repeated if the dropsy return, and, notwithstanding the existence of a certain amount of cirrhosis, there may be a restoration to fair general health, and its continuance for an indefinite period.

My collection of recorded cases furnishes illustrations of the correctness of this operation. It may be that the dropsy will not return after a single tapping. More frequently, the tapping has to be repeated. The intervals between the repetitions, in different cases, and at different periods in the same case, differ greatly. Even if tapping be repeated many times and after short intervals, I believe the rule to tap as early and as often as the dropsy occasions inconvenience, to be better than to let the dropsy remain, or to undertake to lessen it by hydrogogue cathartics. In one of my recorded cases, the patient was tapped 30 times within 18 months. He had come to regard this measure as a trivial affair, and on one occasion, medical aid not being at hand, he tapped himself, using the blade of a pair of scissors instead of a trocar, and introducing a common clay pipe stem as a canula! He was accustomed, the day after a tapping, to go about his business as usual. This was a dispensary case, and was lost sight of after the thirtieth tapping. At that time he was anæmic, but able to take pretty active exercise. There are some cases of ascites in which a causative lesion, if one exist, may remain permanently innocuous, at least when not associated with auxiliary causes, as shown by the recovery and the continuance of perfect health. Of my recorded cases, a few are in this category.

In concluding my clinical report on ascites, published twenty years ago, I used the following language: "Unpromising as are the majority of the cases of ascites, I cannot but believe that, as regards prolongation of life and as much improvement as is compatible with existing structural disease, the success of medical practice would be enhanced by employing less than has been the custom of physicians, diuretics, hydrogogue cathartics, and other depressing remedies, by resorting earlier than is usually done to tapping, and by a greater reliance on tonic medication, together with hygienic measures to invigorate and strengthen the system."

In conclusion now, after the added experience of twenty years, I hold to the same belief, with a stronger conviction of its correctness, as based on reason and clinical facts.

SUPPLEMENT TO THE PAPER ON EARLY TAPPING IN CASES OF ASCITES, BY AUSTIN FLINT, M.D.

As a supplement to the paper on Early Tapping in Cases of Ascites, condensed abstracts of the histories of twelve cases are appended. The sole object in submitting these cases is to illustrate the practical points presented in the paper. All details not bearing upon these practical points are omitted. The cases are appended without comments, leaving the reader to take note of the particular bearings of the facts, which are cited from the histories for the object just stated.

Case I.—Repeated tappings after short intervals. The patient, at the time of the first tapping, greatly prostrated. Progressive improvement.

A woman, aged 36, who had been employed in a liquor shop, was admitted into hospital August 13. She was confined to the bed and greatly prostrated. She was jaundiced. The abdomen was very tense.

A pailful of liquid was removed by tapping. Ten days after the tapping her condition was much improved. At that time the following note was written: "When this patient came under observation she was extremely prostrated. I felt sure that active hydrogogues would have been dangerous, and I felt equally sure that she would have succumbed under the disturbance caused by the greatly distended abdomen. I am persuaded that the continuance of life, in this case, was due to the tapping."

September 3 the dropsy had returned, and the patient was again tapped. September 16 she was again tapped, and again on October 30. Shortly after the last tapping she left the hospital. She progressively improved, notwithstanding the repeated tappings after short intervals. There were no cardiac nor renal complications in this case. The spleen was much enlarged.

Case II.—Tapping once, and no return of the dropsy, the patient apparently well two months after the tapping.

A woman, aged 35, was admitted into hospital in January. Enlargement of the abdomen had existed for two months. The enlargement, at the time of admission, was very great, and attended with much suffering. The patient was confined to her bed. Tapping at once was resorted to, and a bucketful of liquid removed. Notable immediate relief followed. Improvement was noticed. A month after the tapping, the patient was attacked with cholera morbus. There was no return of the dropsy. After recovery from the cholera, she left the hospital reporting quite well.

Case III.—Tapping after ineffectual treatment by hydrogogues Three months after the tapping the dropsy had not returned.

A man aged 50, a spirit drinker, was admitted into hospital in September. Enlargement of the abdomen began three weeks before his admission. elaterium was given repeatedly, causing only a temporary diminution of the dropsy.

He was tapped in December. The abdomen was then much distended, and the lower limbs swelled. There was considerable emaciation. March 30, it was noted that there had been no return of the dropsy; that the patient reported quite well, and that he had a healthy aspect.

Case IV.—Ascites followed by phthisis, No return of dropsy after 3 years. Notable enlargement of abdominal veins.

A man, aged 46, had had ascites 3 years before his admission into hospital. The dropsy disappeared in 7 weeks. Treatment not noted. He quit spirit drinking in a great measure afterward. There had been no return of the dropsy. He had had good health, and had been able to do full work as a ship carpenter for several months, when the symptoms of pulmonary disease began. On his admission he had pulmonary phthisis and chronic laryngitis. He noticed enlargement of the abdominal veins first at the time of the disappearance of the dropsy. On his admission, the appearance of the abdomen was described as follows: "The abdomen presents a very remarkable spectacle. The abdominal veins are greatly dilated and varicose. This appearance is most marked on each lateral part of the interior aspect of the abdomen, the veins extending upward nearly to the level of the nipples, without the mammary line. An enlarged vein extends along the median line, and one on each side of this line. The blood flows in all these veins from below upward.

Case V.—No return of ascites after a single tapping for a period of two years..

A seaman, aged 22, a spirit drinker formerly, was admitted into hospital with typhoid fever, from which he recovered. Two years before his admission he had ascites, and was tapped. He quit the use of spirits, and there had been no return of the dropsy. There was great enlargement of the superficial veins of the abdomen in this case.

Case VI.—Cirrhosis of the liver in a notable degree without ascites.

A woman, aged 33, when admitted into hospital was feeble and anæmic. She had had several attacks of hæmatemesis. She was progressively improving, when 4 months after her admission, she was seized with pneumonia, which proved fatal. There had been no ascites. The autopsy showed in addition to the pneumonia, a hobnail-liver, weighing only two pounds; also disease of kidneys. This case is introduced as illustrative of the tolerance of cirrhosis as regards dropsy.

Case VII.—Ascites in a case in which tapping was twice performed, and no return of the dropsy a month after the last tapping.

A woman, aged 40, a spirit drinker, was admitted into hospital, with ascites, in October. She was at once tapped with immediate relief. Early in December, she was again tapped. A month afterward there had been no return of the dropsy. The patient was then discharged, reporting and looking well.

Case VIII.—Ascites treated ineffectually with elaterium. Tapping twice, and no return of the dropsy cwo months after the second tapping.

A woman, aged 25, applied at a college dispensary, in April, with ascites which had existed for four months. Some diminution of the dropsy was effected by elaterium, but the diminution was temporary. She was then tapped, and, after two months, the tapping was repeated. Two months afterward there had been no return of the dropsy, and she reported quite well.

Case IX.—Ascites treated by tapping, and return of the dropsy repeatedly after long intervals.

A man, the age not stated, a spirit drinker, was admitted into hospital with ascites, which had existed for two months. It was developed after intermittent fever. He gave the following history: Eight years prior to his admission he had ascites, and after four months was tapped. The tapping was repeated after two weeks. There was no return of the dropsy, and he had good health for six years. The dropsy then returned, and he had also hæmatemesis. Five weeks afterward he was tapped. The dropsy returned but disappeared under the use of medicines, and he remained free from it for about two years. He had

continued to drink spirits more or less freely. The subsequent history is not noted.

Case X.—Ascites referable to thrombosis of portal vein. Tapping ten times within three months. No return of the dropsy, and the patient in fair health eleven years afterward. Diet of milk and gingerbread.

This patient, a man 45 years of age, of good habits, came under my observation, in private practice, eleven years ago. He had been ill for several weeks, his symptoms having been supposed to denote thrombosis of the portal vein. I may mention that the patient's wife, a very intelligent woman, had endeavored to study her husband's case by reading medical books, and the reason of my being called in consultation was the advocacy of tapping in my notes on the Practice of Medicine. The abdomen was greatly distended. Owing to the feebleness of the patient, it had been deemed hazardous to resort to tapping. This measure, however, at my suggestion, was at once employed, and notable, immediate relief followed. Within three months the patient was tapped ten times, The aggregate amount of liquid removed was about 350 pounds. After the last tapping there was only a moderate accumulation of liquid, and this gradually disappeared. The patient slowly recovered, and for the past ten years he has had fair health. His aspect is healthy, and he is accustomed to walk from four to six miles daily.

During the period when the tappings were repeated, and for more than a year afterward, this patient confined his diet strictly to milk and gingerbread. These articles have constituted the greater part of his diet ever since. He has taken neither fish nor fowl nor meat of any kind. He is accustomed to take, in addition to the milk and gingerbread, rice, oysters, eggs and asparagus. On one occasion he was led to indulge for several days in the luxury of eating boiled green Indian corn. This was followed by a moderate return of the ascites, which disappeared under the use of diuretics. After this experience he resolved to stick to the diet to which he had become habituated.

Case XI.—Case of supposed portal thrombosis. Tapping repeated ten times. Complete recovery.

This patient, a man aged 47, came under my observation in private practice, in March, 1880. His illness began in December, 1880. He was then in Kansas. He was there considered to have malarial fever and inflammation of the liver and spleen. Between December 8 and 27 he had three attacks of næmatemesis and became greatly prostrated. Following this, ascites developed, and œdema of the lower limbs. On February 3, 1881, he was tapped for the first time, and twenty quarts of liquid removed. He was again tapped February 17, and March 2. He was then brought to Hoboken, N. J., and was seen by me, in consultation with Dr. T. R. Varick, of Jersey City. He was tapped by Dr. Varick March 20, April 3, April 14, April 25, May 9, June 6 and July 10. When seen by me before the tappings by Dr. Varick, he was greatly emaciated and prostrated. He was, however, able to take food freely, and notwithstanding the tappings, he progressively improved. A relative informs me by letter, dated May 31, 1883, that he is in better health than for many years before his illness. In addition to the tappings, the treatment by Dr. Varick was tonic and analeptic. He also took from eight to ten minims of the compound tincture of iodine for several weeks.

This patient was and is a total abstainer from all forms of alcohol.

Case XII.— Ascites from fibrous thickening of peritonæum. Eleven tappings, death and autopsy.

A man, aged 50, was admitted into hospital, July 11, 1881. He declared that he was not an habitual drinker of spirit or other alcoholics. Enlargement of the abdomen was first noticed in the Spring of 1878. Jaundice existed at that time. The treatment and progress of the case were not noted in the history. He was in hospital in April, 1879. The abdomen was then considerably enlarged; but the liquid diminished, and he was in a short time discharged. In August, 1879, he was readmitted, and he was then tapped for the first time. He left the hospital, but was again admitted November 28, and between this date and April 12th, he was tapped six times. He then returned to his duty as a watchman, and he did not again enter hospital until July 11th, 1881. The ascites were now great, and he was tapped on July 13th, 1881. The tapping was repeated October 6th, June 2d, 1882, and in October, 1882. Up to this time his general condition had been fair. In November, 1882, it was noticed that he had pleurisy with effusion, and that the abdomen was much distended. The tapping was repeated November 21st, the liquid withdrawn, being, for the first time, sero-purulent. Death, from exhaustion, occurred November 21st, 1882.

The autopsy showed thickening, adherence and calcification of the pericardium. The heart was somewhat dilated, no valvular lesions. The legs were œdematous, and the right pleural cavity contained about two quarts of sero-fibrinous liquid. The left pleural surfaces were adherent, and the pleura greatly thickened.

The capsule of the liver was much thickened, and the organs slightly cirrhosed. The gastro-hepatic omentum was about an inch in thickness, and compressed the hepatic artery and the portal vein. The hepatic duct was situated above the thickened omentum. There was universal fibrous thickening of the peritonæum. Recent peritonitis was shown by the presence of exuded fibrin, and the peritoneal cavity contained sero-pus. The capsule of the spleen was much thickened. This organ was 6 inches in length, 4 inches wide, and 3 inches in thickness. The kidneys had undergone some fibrous degeneration.

A COMPARISON OF ANTISEPTIC AND NON-ANTISEPTIC METHODS IN SURGERY.

BY DR. DUDLEY P. ALLEN, 177 EUCLID AVE., CLEVELAND, OHIO.

[Read to the Section on Surgery and Anatomy, Cleveland, June, 1883.]

On May 20, when the committee were arranging the programme for this meeting, it was found that there was probably no paper that would directly in-

troduce a discussion upon the comparative merits of surgical procedures undertaken with antiseptic precautions and those undertaken without them. At the request of the local Secretary, I have therefore attempted, in the shortest time possible, to present a comparison of various antiseptic methods with each other, and with non-antiseptic methods.

I think it beyond doubt that, in this country, so-called antiseptic methods are in less favor now than they were a few years ago. This change has become more apparent since the International Congress in London, and depends, to a certain extent at least, upon the favorable statistics produced by Mr. Keith and Mr. Tait in ovariotomy, since they have given up the use of antiseptics. The argument runs thus: If in abdominal surgery it is possible to do away with antiseptics, it must certainly be so elsewhere. Does this argument apply to surgery of other parts? If everything is perfectly clean and aseptic before coming in contact with the abdominal cavity, the only remaining source of infection will be the air. As is well known, the least dangerous source of infection to wounds at the time of operation is the air. Vital tissues have a certain power of resisting septic influences, as is eminently shown in operations on the face. If now, the abdominal cavity does not become infected by the atmosphere, or has sufficient power to resist the germs that may reach it from this source, during the operation, it rapidly ceases to need antiseptic precautions, on account of the rapid union of the peritoneal surfaces.

In this respect, the abdominal cavity differs from the cavities of joints, and from other wounds, since in these there is constant danger of infection taking place from the discharge that may be poured out for days; perhaps for weeks. It would therefore seem that abdominal surgery stands in less need of antiseptic methods than surgery of other parts.

I hope it may be pardoned if this paper is presented from the standpoint of observations made in the clinics of the surgeons whose names are mentioned, and previous observations made while resident house surgeon in the Massachusetts General Hospital of Boston. In the first place, then, with regard to Mr. Keith. He at one time used the spray. Under its use he had 80 successive recoveries from ovariotomy. Later, he had two deaths, which he ascribed to carbolic acid poisoning. Mr. Tait has had 97 successful recoveries out of 100 cases of ovariotomy. Neither operator uses the spray. In October last, however, Mr. Keith said to me: "Instead of being opposed to the principles of antiseptics, I believe in them." One day I saw him remove an immense fibroid of the uterus, largely adherent, without the spray, and a few days later open a perinephritic abscess, with the spray, using carbolic acid dressings. He says he does not use the spray now in operating upon the abdomen, because he fears poisoning, and thinks he has lost cases from that cause. If, however, any operator in the world carries out the principles of antiseptics, it is Mr. Keith. Everything that comes in contact with wounds is cleansed with the utmost thoroughness, and the sponges which he uses he intrusts after operating to no one, but washes them himself, and keeps them constantly immersed in some strongly antiseptic fluid. So far, then, as inferences can be drawn from Mr. Keith's practice, they would seem to be, that in abdominal surgery he considers the danger of infection from the atmosphere less than the danger of poisoning by the carbolic spray. In wounds like the perinephritic abscess of which I spoke, he uses the antiseptic method.

Antiseptic methods may be grouped under three heads, and may be discussed as they are applied by the three men who have been their leading advocates.

Every one has read and heard so much of the minute care, which Mr. Lister takes in the use of antiseptics, that a description of his method would be superfluous. Those who have seen him operate, however, know how rare it is to see an amphitheater in which his precautions are followed with any approach to his perfection.

Let me describe antiseptics as they are applied in a vast number of amphitheaters.

All points of failure may not be present in any one amphitheater, but some defect is very often present. For example, the silk sutures are used dry, or at most, only dipped in carbolic acid. The cat-gut is taken out of its solution and exposed to the air, or, perhaps, hung on the lapel of the assistant's coat. The coats, both of operator and assistant, have been worn in hundreds of operations. Coarse sponges are used which, when out of use lie dry in the amphitheater, and are only washed out in an antiseptic solution before they are used in the wound. The part to be operated upon is simply rinsed off with carbolic acid before the operation begins. Though the hands of the operator and assistant may be thoroughly washed, the surgeons who are invited to examine the wound, simply dip their fingers in the antiseptic fluid, and then place them in the wound, and when dressings are applied they are neither adequate in amount nor applied with sufficient care to prevent the easy access of air to the secretions of the wound. With all these sources of infection, the spray may be kept playing upon the wound with the greatest care, but since this is only intended to prevent infection from the atmosphere, it can by no possibility overcome the infection which may be introduced from any one of these numerous sources.

It seems to me, gentlemen, that right here is the point upon which the conclusions that are being drawn by so many upon the uselessness of antiseptics are at fault. The most prominent feature of Mr. Lister's system being the spray, this was seized upon as the potential element in the securing of the antiseptic healing of wounds, while the other details of the method, which are based upon the absolute cleanliness of everything that is to come in contact with wounds, have been neglected.

That the spray is not a necessity, and that it is the other details that are important, may be shown by a short description of the methods of Prof. Volkmann, of Halle, Saxony, who has been the chief champion of antiseptics in Germany. He secures antiseptics by the flooding of wounds. The floor of his amphitheater is covered with marble, and has an opening

in the center through which water runs away. During operations, the wound is flooded every two or three minutes from a can resembling a watering-pot for flowers, held perhaps two feet above the wound, that the force of the solution of carbolic acid falling upon it may thoroughly wash away any septic matter that may chance to rest upon it. The operator and his assistants wear clean linen coats. No sponges are used that have not soaked at least seven days in 1. to 20. carbolic acid. The ligatures of catgut are only taken from the carbolic oil as they are used. Silk is boiled before use, and kept in an antiseptic solution. The skin covering the part to be operated on is scrubbed thoroughly with soap and water, by use of a nail brush, and ether is often used to dissolve any sebaceous matter that may be collected in the gland openings, and no instrument is used that has not been thoroughly carbolized. When the wound is being stitched together, and can no longer be flooded, a spray is kept playing upon it until the dressings are applied, and also when they are changed. It is but justice to Prof. Volkmann to say that his dressings are applied with a perfection that could scarcely by any possibility be excelled. The excellent results which he reports, and which one can see in his wards, are sufficient guaranty for the efficacy of his method, which succeeds in securing first intention to a remarkable degree, without the spray. The great disadvantage of the method is the fact, that the drenching of the wound with carbolic solution wets both operator and floor, and is extremely disagreeable. Whether Prof. Volkmann may have introduced some new method of operating since I saw him operate in this manner, is impossible for me to say. There remains for consideration the method used by Prof. Billroth, of Vienna.

So far as all precautions in operating are concerned Prof. Billroth's methods correspond almost entirely with Prof. Volkmann's, except that he does not flood wounds so constantly nor abundantly. He does, however, wash them thoroughly. At first he used for washing 1-40 carbolic acid. It is my impression he may now use only water. The essential characteristic of his method is, that in fresh wounds he dusts the wounded surfaces thoroughly with finely-powdered iodoform. In case of sinuses or necroses he places a considerable amount of iodoform in the openings. For dressing wounds gauze is used that is filled with iodoform.

The difference between this method and that of Lester is, that while Lester's might more properly be called aseptic, preventing the entrance of germs into a wound, Billroth's might be called antiseptic, disregarding the entrance of germs into a wound, but destroying them by an antiseptic, which, continuing to act for a long time, constantly prevents any septic process occuring in the secretions.

This method is much less troublesome than either of the others, costing less time and less money, and has the advantage that, should the secretion of the wound leak through the dressings, and become exposed to the air, they are prevented from developing germs by the presence of iodoform, and hence do not demand so careful attention as carbolic acid dressings. The method is of great value where it is impossible by other methods to secure antiseptic measures. For instance, in removal of the tongue it is only with the greatest care and trouble that the floor of the mouth can be prevented from becoming foul, and the operation has proved commonly a very dangerous one from infection not only of surrounding parts, but also of the lungs. After removal of the tongue Prof. Billroth simply packs the floor of the mouth with strips of gauze covered with a preparation of iodoform. This first packing remains often eight to nine days, the wound in the meantime being untouched, and free from all bad odor, and by this means I have seen many cases make a most comfortable and rapid convalesence. The method is equally applicable to operations upon the rectum and the vagina, where other antiseptic methods are impossible, and though the method may not be desirable in all respects it certainly has an especial adaptability to wounds where there is a large septic discharge, to sinuses where complete disinfection is well-nigh impossible, and to surgery in war, where more frequent, and costly, and elaborate dressings would be impracticable. So far as the latter point is concerned, it would seem to be less troublesome than any other method in vogue, even when no antiseptic is in use.

Though a discussion of the merits of other antiseptics than those mentioned might be of interest it does not come within the scope of this paper, and, from the subjects that have been sent to your local committee, I judge a comparison of various antiseptics will be presented by someone else. For the purposes of this paper all antiseptics may be grouped under one of the three heads mentioned. First. Those methods that prevent the entrance of germs to a wound, as represented by Lister. Second. The method of Volkmann, which washes them from a wound while it is exposed, and then so protects the wound by dressings as to prevent germs reaching it. And third. The method of Billroth, which disregards the entrance of germs to the wound during operation, and to the discharges during the process of healing, but destroys their evil influence by the presence of a powder that renders the wound continuously antiseptic.

Other fluids may offer certain advantages over carbolic acid, as bi-chloride of mercury, napthalin, chloride of zinc, or alcohol. Other powders may prove desirable, as subnitrate of bismuth, salicylic acid, or the practice of covering wounds, after disinfection, with bags of powdered peat, but the principle involved in all these dressings is the same as those mentioned.

Whatever antiseptic method is used, it has certain disadvantages. Almost all methods demand much time and attention to details, and expensive dressings.

Should sepsis occur, it is perhaps more dangerous than in open wounds, because germs develop more rapidly in a confined atmosphere than in one where the air circulates freely. Drainage tubes also tend to conduct any poisonous influence to the deepest part of the wounds. The whole system of antiseptics seems to interfere with the ideal method by which

one would seek to gain first intention in wounds, viz., to place wounded surfaces in apposition and keep them so, without the interposition of any foreign substance that would seem to oppose this union.

Those elements in antiseptic surgery which when improperly applied are its dangers, are, when properly used, its safeguards. Drainage tubes which may conduct septic influences to a wound, are, if prevented from so doing, efficient in preventing the accumulation of secretions that tend to delay healing and are, if removed at the proper time, untrustful.

The antiseptic dressings that may favor the development of sepsis, if this is allowed to enter, are, if well applied, a means by which a wound may be kept at perfect rest for days, and exercise a pressure which keeps wounded surfaces closely and constantly in apposition, thus favoring their union, and preventing, in connection of drainage tubes, the collection of discharges. By no means does it seem possible to so fully apply the principle of letting wounds alone after operation as by excluding septic influences.

Some French surgeons, notably Verneuil, have advocated the healing of wounds by second intention, except in cases where this involved too great danger, as in drunkards, or patients with diabetes, arguing that antiseptics introduced too many dangers for the advantages they offer. That carbolic acid and iodoform do under certain circumstances poison and even kill patients is undoubtedly true. It is claimed that certain antiseptics more recently introduced do not possess this danger. This must needs be proved, however, by long trial, since anything that will destroy germs cannot be wholly without effect on organized tissues. That a perfect method of employing antiseptics has not yet been satisfactorily demonstrated is beyond doubt, but as methods are better understood these dangers are more and more avoided, and when one compares the results of treatment of injuries of joints, and compared fractures now with those formerly secured, it would seem that surgical progress should be sought in the direction of the development of the principle enunciated by Lister, rather than in an opposite direction, and that what is needed is to separate the essentials of the method from those things that are not essential.

The theories concerning germs cannot as yet be regarded as settled, but enough seems to be shown to render it probable that their presence in wounds is deleterious. If the dangers which have been ascribed to them arise from some other cause, this has not yet been demonstrated.

In conclusion then, it would seem: 1. That the fact that operations on the abdominal cavity succeed without the spray, does not influence the employment of antiseptics with regard to other operations where there is a continued opportunity for infection. 2. It would appear that the spray is the least important of all the details in antiseptics, and that if the other details already mentioned are attended to, the proper dressing of wounds, pressure and drainage, may by securing absolute quiet for a wound, turn danger into benefits. 3. That different methods are of different application, and that whereas the spray might be most desirable in opening joints, and in the atmosphere of hospitals, with bad hygienic surroundings, flooding might be equally efficient in certain other wounds, and that some perminent antiseptic as iodoform would be most servicable, when other antiseptics are inapplicable, as in removal of the tongue, or where there are cavities that can be rendered aseptic only with difficulty, as in sinuses and necroses, and that some such permanent antiseptic would be of incalculable benefit in war where frequent and elaborate dressings either antiseptic or non-antiseptic are impossible. And 4. That although there are certain dangers in the use of antiseptics, these are more than equaled by the dangers attendant upon their omission, especially in large hospitals, and that dangers of poisoning are certainly decreasing as the application of antiseptics is becoming better understood, and further that investigation may develop a method of securing aseptic results less onerous, and devoid of the disadvantages that now surround them.

If it might not be out of place to make a personal observation, I would venture to say, that after a very careful study of the various methods employed in surgery, both antiseptic and non-antiseptic, as applied in the clinics of a large number of the most esteemed of living surgeons, it has seemed to me that the various antiseptic methods secured far better results than other methods.

I hope, gentlemen, you will pardon me for the seemingly dogmatic manner in which the statements in this paper have been advanced. They have been thus presented only that in the shortest space possible this subject might be brought before the convention for discussion, and if the paper should succeed in eliciting from the many men here present, who are so eminently qualified to instruct the profession at large, their opinions upon a subject which is fundamental in all surgical procedures, it will accomplish the sole purpose for which it was written.

NASAL DISEASE A FREQUENT CAUSE OF ASTHMA.

BY JOHN O. ROE, M. D. ROCHESTER, N. Y.

[Read in Section on Ophthalmology, Otology and Laryngology, June, 1883.]

It has become a well-known fact, since it was first pointed out by Valtolini, that polypoid and other growths in the nasal passages are the frequent cause of asthmatic attacks; but it is only since Weber called attention to the relation between chronic nasal catarrh and asthma that it has been recognized, that other diseases of the nasal passages, independent of neoplastic growths, are also capable of exciting asthmatic attacks in a similar manner.

Asthma is proverbially considered to be the most intractable of all diseases. Indeed, so uncertain is the effect of any remedy in its treatment, in different individuals, that physicians not unfrequently depend more on the experience of the patient respecting any particular remedy than upon the logical administration of remedies to meet the symptomatic indications.

This capriciousness of asthma has led to the most diversified views as to its etiology and pathology,

which to the present time has been the most imperfectly understood of any disease with which we are so familiar. Since the time of Laenneck, numerous theories have been proposed to explain the cause and phenomena of the disease, but none have met with more general acceptance than the one proposed by Laenneck himself, that asthma is a neurosis, and depends on either a functional or an organic change in the nerve centers, producing a spasm of the bronchial muscles, and consequent narrowing of the tubes during the attack. This theory of the nervous origin of asthma is founded mainly on the assumption that diseases which cannot be traced to organic lesion, are manifested in symptoms of derangement of the nervous system.

This view of the cause of asthma, supported by Andral, met with general acceptance, but the negative evidence on post mortem inspection, led to seeking another cause.

Louis observed the exudate which followed the attack, and its frequent association with emphysema and bronchitis. He therefore considered asthma to be a consequent symptom of these affections.

Dr. C. J. B. Williams, supported by Longet, proposed that the disease be divided into two forms—the spasmodic and the paralytic; the former accompanied emphysema, while the latter appeared in connection with chronic pituitous catarrh.

Traube and Villemin, not satisfied with these theories, attributed the dyspnœal attacks to fluxionary hyperæmia of the bronchial mucous membrane.

Tetanus of the diphragm and other muscles of respiration, accompanied, perhaps, by a spasm of the glottis, was then proposed by Wintrich, and supported by Budd and Duchenne, while Sée insisted that asthma is a neurosis of the vagus and its branches, and manifested itself by a tetanus of all the respiratory muscles and by a bronchial expectoration.

Dr. Burdon-Sanderson proposed that relaxation of the vocal cords and narrowing of the chink of the glottis during profound sleep, accounted for the asthmatic attacks at night.

Leyden considers asthma a form or symptom of croupous bronchitis.

And lastly, we have proposed by Weber, and supported by Haring, that the disease is a vaso-motor neurosis. The fluxionary hyperæmia proposed by Traube is thus produced by the vessel dilatation caused by irritation of the vaso-motor nerves. The fact that hyperæmia and swelling of the bronchial mucous membrane take place, was confirmed by Störk, who demonstrated by laryngoscopic examination the congestion of the trachea during the attack.

In reviewing, even thus briefly, the different theories regarding the pathology of this affection, which have from time to time been proposed, we cannot fail to observe that the influence exerted by the sympathetic system of nerves had been entirely overlooked, until pointed out by Prof. Weber.

This is still more singular, since it was so well known that derangement of various organs and disease of various parts of the body would provoke attacks of asthma, and it was also known that disease in one part or organ will cause, through the agency of the sympathetic nervous system, derangement in another organ, even in remote portions of the body.

Before discussing the special affection forming the subject of this paper, I will enumerate, in passing, some of the varied reflected phenomena, observed to result from disease in the nose, and manifested in nervous disorders—as chorea, reflex epilepsy, neuralgia (especially of the supra-orbital nerve), melancholia, loss of memory, and mental depression. This relationship which exists between the nasal mucous membrane and the nervous system, has been very clearly formulated by Dr. Jocobi, in a recent communication to the New York Obstetrical Society, on some of the effects of nasal polypi in children, as follows:

First. The trigeminus, with all its branches, is subjected to direct or reflex irritation arising from the inflamed condition of the nasal mucous membrane.

Second. The thickening of the mucous membrane in the narrow passages of the child, and especially the presence of a polypus, seriously interferes with respiration, and the result is the accumulation of carbonic acid gas in the brain, particularly about the respiratory center at the medulla oblongata.

Third. The lymphatic system of the nasal mucous membrane and that of the dura-mater and the arachnoid membranes are in intimate relation with each other, which is so close that they can be injected from either side.

Disturbances are also seen to take place in other organs, and will only disappear on the removal of the cause in the nose. Among these may be mentioned diseased conditions of the upper part of the digestive tract and gastric disturbances, uterine disorders, affections of the genito-urinary organs, disorders of sight, smell, taste and hearing; affections of the larynx, laryngeal cough, and alterations in the speaking and singing voice.

With this array of affections, unquestionably and not infrequently induced by nasal disease, it is not surprising that organs so sensitive as are the lungs to external impressions, should readily be irritated by similar causes.

There are two modes in which nasal disease provokes attacks of asthma.

1st. The most frequent form results from narrowing or occlusion of the nasal passages by hypertrophied tissue or nasal polypi.

2nd. That induced by disease of the pituitary mucous membrane unassociated with hypertropy or polypi.

The first is both mechanical and nerve-reflex in its character, while the second is purely reflex.

It is a noticeable fact, that nasal polypi and hypertrophied tissue, when inducing asthma, are almost invariably located on the posterior end of the turbinated bone.

This sensitive area of the turbinated tissue at the posterior end of the turbinated bone, Dr. J. N. Mackenzie, of Baltimore, likened to the sensitive cough centers found in the pharynx and larynx.

The more frequent occurrence of asthmatic attacks at night, especially in those persons having hypertrophic catarrh, is by this fact very clearly explained.

At the posterior end of the turbinated bone, the cavernous erectile tissue is much thicker and more dilatable than at the anterior, consequently, when in the recumbent position, the gravitation of the fluids distends this portion of the tissue, which, together with the accumulation of the secretions, occlude the passage, produce pressure at this sensitive point, and reflex irritation in the lungs results. This irritation is reflected to the lungs through the cervical sympathetic, connecting the pneumogastric nerves with the trigeminus, which has extensive distributions in the nose.

The mechanical effect of occlusion of the nares cannot be better illustrated than by the marked dyspnœa, which is occasioned in young children if by any cause the nostrils become obstructed.

From a number of well-marked instances of asthma, caused by nasal disease, independent of polypi, which have come under my observation, I will cite the following, by way of illustration: A lady, age 40, consulted me in regard to attacks of asthma, which were increasing both in frequency and severity. She had had asthma more or less for several years, but more since the birth of her last child, three years before. She was subject to frequent colds in the head, which almost invariably induced an attack of asthma. On examination, I found an irritable chronic rhinitis with some pharyngo-laryngeal and bronchial catarrh.

There was some thickening of the nasal mucous membrane, which was very sensitive, but there was little or no turbinated hypertrophy, nor were her attacks to any extent aggravated at night.

Local applications to the nasal cavity, and sedative and mildly astringent inhalations, soon relieved and lessened in frequency her asthmatic attacks. These, soon after, ceased altogether, and she has had none during the three years since, even on taking cold.

A girl, æt. 18, was referred to me suffering intensely from dyspnœa of an asthmatic character. From the character of her respiration, I suspected some laryngeal obstruction. On laryngoscopic examination, the larynx was found clear, so were also the lungs, except some narrowing of the smaller tubes. There was no mucus in the tubes or expectoration. The nostrils were both found occluded—the right by hypertrophied turbinated tissue, the left by bony obstruction.

The hypertrophied tissue in the right was removed by Jarvis snare, and the bony obstruction of the left by nasal bone scissors. The passages were freed from obstruction and her asthma disappeared.

In about three months she returned with her asthma as severe as before. On examination, I found in the left nostril that granulations from the site where the bone was removed had formed a band across the back end of the passage, but it did not obstruct nasal respiration. On the removal of this band the asthma disappeared.

Several other equally well marked cases have come under my observation. I will not detain you with a recital of them here, but will add them to this article should it be published.

In the *Edinburgh Medical Journal* for February, 1881, Dr. S. Hunter Mackenzie reports a case in which asthmatic attacks were caused by atrophic catarrh of the nasal passages. He also says the attacks were worse during August and September, and were entirely relieved by treatment to the nose.

The fact that they were worse during August and September would indicate the cause to be a local irritant, as is the case with hay asthma sufferers.

In hay asthma sufferers the cause for the acute attacks lie in a hyperæsthesia of the turbinated tissue, which hyperæsthesia is caused by a chronic rhinitis (usually hypertrophic) that renders the tissues extremely sensitive to pollen and other irritating substances floating in the air, as the writer of this paper has recently pointed out in an article on hay fever in the *New York Medical Journal*.

This relationship between chronic rhinitis and asthma has also attracted the attention of several recent writers on nasal diseases.

B. Fraenkel considers the treatment of the nose of the utmost importance for the relief of asthma associated with nasal catarrh.

Schaeffer believes that all asthma patients suffer more or less from chronic catarrh of the upper air passages, particularly the nose.

Bienner and Riegel consider the nasal fossæ a very frequent center of irritation in the production of reflex asthma.

Dr. Elsberg, of New York, has very clearly called attention to the same fact in a recent article before the American Laryngoscopic Association.

Brisgen, in a very excellent article in the *Klinischen Vorträge* for May, 1882, points out in a forcible manner the important relations which disease of the nose sustains to spasmodic asthma.

He also calls attention to the importance of free nasal passages and of free nasal respiration, of the baneful habit of mouth breathing, and of the universal attention which should be given to the treatment of nasal disease and to the Englishman's proverb, "Shut your mouth and save your life."

DISCUSSION.

Dr. Seiler in the discussion said that he fully agreed with the author and that in one case an attack of asthma has been produced by touching a tender part on the nose with the end of a probe, and all asthmatic symptoms disappeared after the spot had been cauterized. He also, was of the opinion that hay fever was due to chronic nasal catarrh of the hypertrophic variety and that the mucous membrane becoming irritated by the pollen grains, gave rise to the well-known symptoms. He had cured cases of hay fever by removing the hypertrophic catarrh.

Dr. Frothingham said that he could not see how an inflammation of the nasal cavity could exist for any length of time without a tendency to extend into the mucous membrane of the bronchial tubes and that then these cases were not different from ordinary cases of the disease.

Dr. Roe in closing the discussion, said he was very glad that Dr. Seiler had supported him in his opinion. He also said it was not necessary to have

bronchitis in all cases of asthma, but that the congestion of the mucous membrane of the bronchial tubes might readily be produced by the same causes which in the beginning produced asthma.

IS ABSCISSION A PROPER OPERATION?

BY JULIAN J. CHISOLM, M.D., OF BALTIMORE, MD.

[Read in Section on Ophthalmology, Otology and Laryngology.]

A question which often intruded itself upon me when carrying out the suggestions of Mr. Critebek, was as to the propriety of removing the staphylomatous tumor and leave the bulk of the eyeball behind. This operation I have for many years abandoned, for the reason that I questioned the advantages supposed to attend the leaving of a part of the eyeball to facilitate the movement of the artificial eye shell. It is difficult to divest one's self of the idea, that a round, plump, symmetrical stump, is not essentially adapted for the application of an artificial eye, itself the section of a hollow sphere, which seems to invite into its open concavity a corresponding spherical surface. It seems to be a natural inference that when two surfaces are nicely adjusted they should work well together. However true this may be in joint movement, it must not be forgotten that such sliding movements are not wanted in the application of an artificial eye upon an eye stump. In this case there should be no motion between the opposing surfaces and yet a nice adjustment is always aimed at.

It is no easy matter to remove a general staphyloma and leave a symmetrical globe behind. The elliptical incisions necessary for amputating the corneal prominence wholly, leave sharp points or puckered ends to the cicatrical line, and these form ugly prominences against which the artificial eye presses injuriously. With a certain amount of friction which seems unavoidable, the movements of the eye shell against the irregular surface of the stump induce irritation, and these stumps are kept in a constant state of injection. When the irritation is daily re-excited by the presence of the artificial eye it leads to excessive mucous secretions and a thickened condition of the conjunctival surface, accompanied by an irritability of the socket, which often is so excessive as to exclude the possibility of wearing the artificial eye with any comfort. I find as the result of my observation that this train of symptoms are much more common when an artificial eye is worn over a stump than when carried in an eyeless socket. An explanation for this seems to reside in the much more limited contact of the shell when the eyeball has been entirely removed.

Should two sockets be compared, one holding an eye stump after a successful abscission, the other from which the eyeball has been properly removed, it will be noticed that the motions imparted to the socket tissues by the muscles caught in the cicatrix will be co-extensive with those moving the eye stump; but dissimilar in this regard, that while the eyeball rotates in the orbit with but little movement of the socket tissues, the muscular action upon the eyeless socket makes an irregular form of curvature as each muscle in turn pulls the socket tissue backwards, this depression being accompanied by a corresponding elevation of the surface over the location of the antagonistic muscle. When an artificial eye is adjusted to an abscissed globe nearly the entire opposing surfaces are in juxtaposition, the edges of the artificial eye overreaching the ocular boundaries and lodging against the socket conjunctiva, so that when motions are made by the muscles upon the eye stump and are transmitted by juxtaposition of surfaces to the shell, there must necessarily be some sliding or friction on account of the overlapping of the eye shell, the periphery of which rests upon resisting tissues to which but little movement is imparted. When an eye shell is adjusted to an eyeless socket, which exhibits a slight concavity instead of the eyeball convexity, only the very edges of the artificial eye touch the socket tissues so that friction of opposing surfaces is reduced to a minimum. The edge of the artificial eye rests on the lower conjunctival sulcus, and if of proper size should not press the upper conjunctival cul-de-sac. The variation of position in the plane of the socket as the cicatrix is acted upon by the recti muscles tilts the artificial eye in such a way as to establish movements which will be symmetrical although not co-extensive with those of the good eye. If the movements imparted to an artificial eye by the socket tissues be coequal with those distributed by an abscissed eyeball while the effects of injurious friction are materially reduced, the immediate and ultimate dangers of preserving a part of the eyeball, as a cushion, under the belief that it offers advantages for the adaptation of an artificial eye, are too great to justify the operation of abscission. Enucleation may be considered one of the easiest and safest operations in eye surgery. The after-healing is prompt and the operation is final. Abscission, on the contrary, necessitates much experience and skill in the use of instruments to meet all of its requirements for obtaining a symmetrical stump. Destructive inflammation may be the immediate sequela of a most perfect operation. Should the patient escape this peril and the wound heal kindly the eyeball may at any future time become the seat of degenerative changes necessitating enucleation to avoid sympathetic irritation, and these may occur whether the ciliary region be injured or not, during the operation. When we weigh the difficulties and dangers immediate and remote of abscission, with the simplicity and safety of enucleation, with the belief that one has no advantages in moving the artificial eye over the other, then may abscission be rejected as an eye operation.

DISCUSSION.

Dr. Culbertson said that in an experience of over thirty years, and embracing by no means a limited number of cases, he had not observed a single unfortunate result from abscission of the eyeball. This favorable showing was probably due to several causes, as follows: The abscission of the cornea and sclerotic one-sixteenth of an inch posterior to the sclero-corneal junction, thus removing the sentient extremities of the ciliary nerves and sensitive cornea, and permitting the escape of the crystalline lens (in one case

he had removed the detached and shrunken choroid, retina and vitreous, with favorable result); the removal of the iris; the rejection of sutures in the sclerotic to act as irritants, and which, closing the eyeball, aid in increasing the tension and the pain, thus leaving an open wound, that drainage from the eyeball may follow, as well as suppuration of its contents (Von Graefe having shown that when this follows sympathetic inflammation of the fellow eye does not obtain), and permitting these to return to the embryonal state mentioned by Stricker as the result of inflammation, and the whole process ending in the formation of a firm and non-sensitive cicatrix in the anterior region of the shrunken eyeball, on which rests the artificial eye in the future; and the use of disinfectants in the conjunctival sac, conjoined with cleanliness after the operation.

His patients were, as a rule, sitting up in three or four days, and convalescence has been uninterrupted. He had not observed flattening of the side of the face in children, or so much as a sulcus above the eyeball, following this, as after the operation of enucleation. He believed, too, that abscission permitted greater movements of the artificial eye. He cited also the fact that artificial eyes are worn often with impunity without the removal of the cornea or any preparation of the eyeball.

He would not abscise when sympathetic inflammation was present in the fellow eye, or when there was a foreign body in the affected eye.

Dr. Frothingham said that the operation of abscission should be abandoned and that the uninjured eye should be the objective point in a case of injury to it by sympathetic inflammation no risk should be incurred for the sake of æsthetic considerations. Further, that the operations prove more difficult to perform than enucleation and therefore the risk is greater. The stump is always a source of danger even after the lapse of years.

Dr. Lundy, of Detroit, had seen cases of total blindness from sympathetic ophthalmia after abscission. Thinks the wearing of an artificial eye over these stumps often produces great irration. Had seen a case of ossification of the ciliary body and choroid as a result of irritation from the wearing of an artificial eye over such a stump.

Dr. Thompson, of Indianapolis, coincided most fully with the views expressed by Dr. Chisolm, and mentioned several cases of panophthalmus following abscission and two cases occurred under his observation where two formerly healthy eyes were sacrificed and vision totally lost after the operation of abscission.

Dr. Conner said he had seen disastrous results following the operation of abscission.

Dr. Noyes said he had formerly performed the operation, but had never seen bad results to follow; in all these cases he had however advised enucleation of the eye. He thought that suppuration prevented sympathetic inflammation in the other eye. In cases of foreign body he should always advise enucleation and thought that the safety of the uninjured eye was the main point.

Dr. Cornwell, of Columbus, described an operation for enucleation devised by himself which had proved very successful.

Dr. Chisolm, in closing the discussion, said that formerly he had been in favor of abscission, but that now he considered an injured eyeball, whether from operation or from accident, a source of great danger.

EARLY TREPHINING IN DISEASES OF BONES.

BY JOSEPH RANSOHOFF, M.D., F.R.C.S., ENG. PROFESSOR OF DESCRIPTIVE ANATOMY AND CLINICAL SURGERY, MEDICAL COLLEGE OF OHIO.

[Read to the Section on Surgery and Anatomy, June, 1883.]

A careful study of the vascular relations of a bone to its periosteum and medulla, leads to the conviction that there can be no serious deviation from the normal in either without implication of the remaining parts. Of the three component parts of a bone, the osseous tissue proper, owing to its comparatively passive nutritive state, is naturally least liable to inflammatory changes. As a rule, its morbid conditions are therefore secondary in character, and follow upon disturbances of the periosteum or medulla. From the superficial position of the former, its lesions, whether primary or secondary, are always easily recognized. Those of the medulla, on the other hand, are as usually ignored until the periosteum and the bone itself have become involved in a manner to attract attention by irregularities of outline, swelling of the soft parts, abscesses and fistulæ. It is for this reason, that periostitis is supposed to be the most common affection of bone, although there are most excellent grounds for the belief that, in the great majority of cases, the marrow must be looked to as the seat of the first pathological process. Concerning the destructive lesions of the articular ends of the long and of the cancellous tissue of the flat bones, this is universally conceded. What anatomical or physiological factor can be adduced to explain the difference which is supposed to exist in the course of inflammatory changes as manifested in the epiphyses and diaphyses of long bone? For my part, I fail to recognize one. Indeed, there are many persons for holding that most cases of periostitis, whether consequent upon trauma or arising without discoverable cause, are secondary to endosteal lesions. In the first place, it is a well-established fact in pathology, that the tissues which possess the greatest vascularity, and therefore also display the greatest nutritive activity, most readily yield to inflammation. This is likewise true of those tissues in which the greatest number of changeable connective tissue cells are found, for these most readily assume their embryonal form and activity, whence they are only one step removed from pus globules. In regard to both of these factors, the marrow, particularly of growing bone, and especially in the vicinity of the epiphysal cartilages, must be considered as more prone to inflammation than the periosteum.

Again, it is within the experience of every observer, that intense pains in a limb, with uselessness of the member, will often precede by weeks and even months the development of perceptible changes in

the contour of the bone. Furthermore, under such circumstances, the mere incision of the periosteum, however freely made, will very often fail to relieve the pain effectually, even if pus be evacuated by the operation. Again, this pus, as was shown by Chassaignac and by Rosen, frequently contains a notable amount of oil globules which could only have come from the medullary cavity. The periosteum itself is free from fat, and the oily appearance of the surface of a bone after it has undergone post-mortem changes must not be mistaken for its appearance *intra vitam*. If subcutaneous bones like the tibia and clavicle are altered by inflammatory processes, it can easily be demonstrated that generally the entire circumference of the bone is involved simultaneously, so that if only a section is invaded by disease, the part will assume a spindle shape. The peculiar osseous changes that follow in the wake of constitutional vices like the tubercular and hectic, are of course not here included. Of greater importance than either of these, is the fact that whatever the bone affected, extensive sequestra are central in character and position, and can only be removed by mechanically destroying in part the laminæ that are of periosteal development.

Of inestimable value in the appreciation of the events that lead to the destruction of bone is the fact, that depriving it of its external covering is not productive of exfoliation. This does not require experimental proofs. While an interne of the Cincinnati Hospital I saw the frontal bone denuded over an area larger than the palm of the hand by an attempt at suicide; the periostum with the soft parts sloughed away. On the fourth day we could observe with a lens the minute capillary loops springing from the depths of the bone and spreading until they touched and the entire wound was filled with granulations. Even if in analogous cases necrosis does ensue, the process is limited in extent and only the superficial lamellae are thrown off.

The unyielding bony case that everywhere surrounds the medulla is an *a priori* evidence of the great gravity of the pathological changes here situate. When an inflammatory exudate rapidly fills the endosteal space its organization is almost impossible. The increased intra-osseous pressure forces serum and corpuscles through the Haversian canals, the periosteum is raised and thus deprived of its internal and external sources of its blood supply, the death of the bone necessarily ensues. The greater importance which I would attribute to the pathological conditions of bone marrow has been recognized by a small minority of observers, especially by Rosen, in Germany, and Lannelongue, in France. Nevertheless, the view is still entertained by the profession at large that except in the acutest cases of osteo myelitis, as first clearly described by Chassaignac, the periosteum plays the more important role. The study of pathological specimens derived from human subjects can give strength to neither of these views, since death does not ensue until the lesions have long passed from their primary form and parts originally not at all involved have suffered death from interrupted nutrition.

Fortunately experimental pathology aids us in filling up the gap in our knowledge of bone lesions. I need not consume your valuable time in recalling the experiments which have been made relative to this subject, chiefly by Flourens, Ollire, Busch, Mass and Kocher. It has been generally proven that the opening of the medullary cavity, even with extensive destruction of the marrow is not necessarily followed by general disturbances nor even by increase in the thickness of the bone. Kocher lays considerable stress upon the antiseptic precautions which should be observed to prevent septic changes. In my own experiments I have not been enabled, as a rule to carry them out, since the animals would remove the bandages acting on the belief that their own saliva was a better application to the wound than either iodoform or boracic acid. Dogs, from which I removed large portions of the humerus without interrupting the continuity of the shaft in its entire thickness, would run about on the second day after the operation without more than a just preceptible lameness. Of course these wounds suppurated, in one case for six weeks and in another two months, but without leading to the exfoliation of bone. Whoever will experiment upon this theme will readily convince himself that even an extensive purulent exudate in the central canal does not, of necessity, entail the death of bone, unless the inter-medullary pressure is sufficiently increased to cause regurgitation of the blood in the vascular channels and of the exuded material itself back towards the periosteum. The deleterious effects of any great increase of intra-osseous pressure on the circulation of the bone can be most easily demonstrated on the long bone of any young animal in which the marrow has not yet undergone post-mortem changes. If through the small aperture made by a drill in the diaphysis of a calf's tibia, only one ounce of fluid be injected the blood will at once be observed to regurgitate from the interior of the bone throught the Haversian canals towards the periosteum and particularly through that of the principal nutritive artery. While I have never been able by this process to elevate the periosteum from its attachments, it explains to me satisfactorily how, in all cases, this membrane becomes secondarily involved; how in the acutest the excess of blood to its deeper and most cellular layers will lead to suppurative action and how in milder cases by hypertrophy of the bone will follow this interruption in the harmony of the osseous nutrition. In no way has the relation between medulla and even the general circulation been displayed better than by the experiments of Busch and Riedel on the subject of fat embolism, who have been able to induce capillary embolism of the pulmonary vessels by injections into the medullary space.

The question might now be properly raised, whether all the detrimental changes, both local and general, encountered in cases of osteo-myelitis are the result of the increased medullary pressure. In subacute and chronic inflammations of bone, where the intra-medullary pressure has been gradually elevated, the osteo-porotoic condition of the bone in the vicinity of the inflammatory nidus is of itself sufficient evidence of the effect of said pressure. As has al-

ready been seen, the destruction of the medulla, whether produced by hot wire or chemical agents, will not as a rule lead to nurosis, or even to marked thickening of bone and secondary changes in distant parts, I have never seen produced, provided an efficient means of escape be given to the inflammatory exudates; provided, in other words, the possibility of exaggerated tension in the canal be removed. Prevent the escape of the excessive outpouring of blood, and serum and leucocytes from the inflamed nidus, and disastrous local and general phenomena supervene at once. I did not find it necessary in order to obtain these to resort to such violent, and, I might be permitted to say, unnatural methods as the introduction of laminaria tents, chemical irritants plugs of charpie (Busch, Troja) or of septic virus. The extensive breaking down of the marrow through drill-holes, and the subsequent stoppage of these with wooden pegs in two experiment animals resulted in the one case in profuse purulent infiltrations of the soft parts with death of the entire thickness of the bone, and in the other case in the death of the animal on the seventh day from embolic processes in both lungs. The specimen derived from this animal was of particular interest, in that the post mortem investigation displayed at least twenty hæmorrhagic infarcts in the lung at a time when even the medullary cavity as yet was free from pus, although it contained shreds of medullary tissue. In a third animal the medulla of the humerus was likewise destroyed through two drill-holes, only one of which was subsequently occluded. While in this case profuse suppuration ensued, there was no evidence whatever of general infection, or even of necrosis up to the end of the fourth week, when the animal made good its escape.

To the practitioner who sees many cases of compound fracture, experiments such as these will probably only serve to explain the fact that purulent infiltration of the soft parts, septic complications and extensive necrosis is less liable to follow in cases where the injury itself has provided means of drainage than in those in which a small cutaneous wound is attended by extensive comminution of the bone.

The facts which I have attempted thus briefly to elucidate indicate, as has already been remarked, to the minority of pathologists the secondary role of the periosteum and the great importance of the medulla not only in the acutest forms of spontaneous and traumatic osteo-myelitis that lead to speedy death by purulent infection, but also in those milder types of bone disease in which the end results are necrosis, often, of an entire diaphysis, breaking down of the epithelial disk, articular complications, and eventually death from amyloid degeneration of the viscera.

If the two propositions (1. That the exposure of the medullary cavity *per se* is unattended by deleterious consequences, and 2. That the continuance of increased intra-osseous pressure is the main source of secondary changes) are correct, the natural deduction follows that in the very earliest possible use of the trephine we possess an inestimable means of saving life in the acutest forms of bone disease, of curtailing by months and even by years the course of others, and of preventing the deformities and operative mutilations that so often follow in the wake of even mild cases.

As was already recognized by Chassiagnac, the only relief from local, and often from general death, in the severest types of medullitis, is in the spontaneous formation of an aperture for the vent of the purulent accumulation Nevertheless, he and his followers obtained from operative interference, although the ancient operation for trephining in bone disease so long abandoned, had been reintroduced by Petit, Hunter, and our own countrymen, Drs. N. and T. Marven Smith. While in the most violent osteo-myelitides, the typhus des membres, trephining the bones involved is particularly essential to the preservation of life and limb, it is not here that the operation must find its widest range of application and usefulness, for idiopathic cases that run so rapidly fatal a course, are among the clinical varieties. It is in the sub-acute and chronic inflammations of bone that are of daily occurrence, and that lead secondarily to necrosis or osteo-psoriosis and sclerosis, from long-continued vascular disturbance of the medulla of the bone proper, and of its external envelope that the operation of early trephining is attended with its most signal benefits.

While most modern systematic writers speak with praise of the use of the trephine in the treatment of bone affections, such phrases as if the presence of pus be suspected, or "if the pain is not relieved by an incision" are probably too often encountered in our classical treatises on surgery, for they necessarily deter the timid from timely interference. The latter, is even counselled by Dr. Lidell, than whom there is no greater authority living, on the subject under consideration. Among German writers, Deume, Volkman, Licke and Roser, discuss the propriety of early interference with the trephine, but none of them had given the operation a trial. It remained for the valuable contribution of Ollier, with its report of nineteen cases, to give that impetus to the procedure to which its merits justly entitles it. Within the last five years Mr. Bryant has recorded twelve cases. M. Lannelongue three, Mr. Downes 5, Dr. Bauer 1, in which the early opening of the medullary cavity for diverse affections was practiced with good results, and without causing untoward symptoms referable to the operation. In my own experience, I have within two years felt impelled to resort to the use of the trephine in three cases of inflammation of the shaft of a long bone, and in all of them the relief afforded was as prompt as it was radical.

Case I. Michael J. æt. 8 years, had received a kick on the shin in July, 1881. The pains of which he complained were unheeded for several days, when the inability of the patient to walk, aroused the anxiety of the parents. The physician who first saw the case, ordered applications of iodine and rest. When the patient was presented at the dispensary of the Medical College, of Ohio, two weeks after the accident, he could bear no weight on the affected member, and complained of pains, which, of course, were particularly severe at night. Inspection revealed considerable swelling of the entire leg, the skin of which was greatly discolored by the previous

applications. The part was so sensitive to the touch that its satisfactory examination could only be effected under anæsthesia. Through the swelling of the soft parts, the outlines of the tibia could be distinctly felt. The middle third of the bone was thickened in its entire circumference so far as this could be palpated, and presented a long spindle, the ends of which gradually merged into the normal outline. After demonstration of the case to the class, a free incision was made down to the bone, and the periosteum divided for about an inch. Not a vestige of pus appeared, and while the bone-membrane in the wound appeared thickened, it was firmly adherent to the subjacent structure. The relief from pain which followed this treatment was most marked for nearly one week, when, although the wound suppurated freely, and the infiltration of the soft parts had to a large extent subsided, the acute symptoms returned. For this reason I concluded to open the medullary cavity, and on about the twenty-third day after the inception of the difficulty I trephined. When the button of bone was removed, several of the by-standing students believed to have recognized several drops of pus exude with the blood from the medullary space. I did not see them, and their presence or absence could have had no effect on the justifiability of the second operation. In six weeks the ganulations which filled the oseous aperture were on a level with the skin, and in three months the patient resumed his desk at school.

CASE II.—Fred S., æt. 7. The child of healthy parents. Referred to me by Dr. Little, of Cincinnati. Two months prior to my first examination of the patient, a severe pain developed in the left tibia, without any other appreciable cause than a severe drenching. Notwithstanding the nocturnal exacerbations of suffering, the disease was supposed to be of rheumatic character, and the exhibition of iodide of potassium and the use of the rubber bandage, appeared to be of marked benefit. In August, 1882, three months after the inception of the difficulty, the entire leg presented a glistening, rosy-red appearance. Pressure over the tibia was particularly painful over the points of junction of the middle with the upper and lower thirds of the shaft. The entire tibia was considerably thickened, when compared with the sound one. Recognizing the extensive nature of the affection, and believing it to be central in its origin, I concluded, after consultation with Dr. Little, to trephine the bone at two points, and for this purpose selected those of greatest tenderness. At the points indicated, the periosteum was normal in appearance, although at the upper part the surface of the bone was roughened over an area not exceeding the fourth of an inch. It was not necessary to resort to the trephnie, for I was enabled, with a sharp spoon, to cut a way into the medulla without the least difficulty, so vascular was the compact tissue of this bone. Where this instrument can be used, I think it should be preferred to the trephine, since the aperture made by it can be changed in form at the will of the operator, and no irritating bone-dust is forced into the medulla. In this case, a small quantity of pus escaped only from the upper aperture. On the fifth day after the operation an erysipelas developed, which involved the entire extremity, and required the opening of several abscesses. This complication did not materially interfere with the cure of the boy, for three months after the operation, he again attended school. Although a just appreciable enlargement of the tibia still remains (nine months after the operation) the boy complains of no pain, is not easily fatigued, and in every way enjoys perfect health.

CASE III.—Miss P., æt 16. Suffered from severe pains in the left clavicle, for which medical aid was summoned. The history of the case is not very clear. When I saw the patient in October, of last year, she was pale and unhealthy in appearance, and had ceased to menstruate. The left clavicle was very much thickened, but not very painful to examination. About its center there was a small periosteal abscess, which, when opened, discharged a small quantity of pus. I was not enabled to find a sinus leading to dead bone at this examination. The continuance of the discharge, led me to expose the diseased bone. With the assistance of Dr. L. J. Crouse, of Cincinnati, I found a very small sinus leading into the medulla cavity. With the chisel, I removed a portion of the anterior clavicular wall, and succeeded in extracting a sequestrum, three inches in length, and of perfect form. About its central origin there could be no reasonable doubt. Unfortunately, the welfare of the patient, demanded that the specimen should be ruined, before it was brought to light. While there was no delay in the permanent closure of the wound, the deformity, consequent upon the periosteal growth of bone around the necrotic mass, has not been in the least modified.

In neither of the cases reported did I seek or obtain union by first intention. Had this been accomplished, the operations might justly be called but an exaggerated "*saigner des os*, bleeding of the bone," suggested by Langier before many of us were born. The object of early trephining is to afford a means of exit to the inflammatory exudate as fast and as long as it is found, and hence the circular aperture will always be followed with better results and attended with less risks than the linear osteotomy so highly lauded by Mr. Erichsen. Where the entire diaphysis of a bone is involved, I believe it is always best to trephine in at least two places, with the view of equalizing pressure and for readier drainage. In 1839, Marcus Smith already reported a case in which the symptoms were not relieved by two apertures. Finally, the removal of a third button of bone from the head of the tibia was followed by permanent alleviation.[1]

I have intentionally refrained from mentioning the osteo-myelitis that results from septic infection in cases of compound fracture, gunshot and amputation wounds, as a subject beyond the scope of this paper, and entirely irrelevant to the material embodied therein.

[1] The after-treatment in my cases consisted of the filling up of the wounds with Mason's boracic acid, and the application over this of absorbent cotton and the ordinary roller bandage.

PLACENTA PRÆVIA, OR TWO CASES OF CENTRALLY IMPLANTED PLACENTAS IN SUCCESSION.

BY D. C. DAVIES, M.D., COLUMBUS, WIS.

[Read before the Wisconsin State Medical Society September 15, 1883.]

By placenta prævia we mean the real position of the placenta and placental seat, it being situated over some portion of the lower segment of the uterus instead of at the fundus or side walls of that viscus. When the placenta is implanted so as to completely cover the internal mouth of the womb, it is called placenta prævia centralis, but when it only dips down to the margin of the os internum it is called placenta prævia lateralis or partialis. It is said that normally the placenta is attached to the fundus or side walls of the womb, and the usual position is to the right or left, generally to the right; but that in certain cases it is growing to that portion close to, or immediately over the internal mouth of the organ which constitutes the abnormal condition of our subject matter, and the cause or causes of which are as yet far from being satisfactorily established.

Although this placental mal-position only occurs, according to Meadows, once in about 500 cases of labor, and according to Luck "not quite one case in 1,000," yet I can say that it has been my good fortune to see, on an average, more than one case for every year of the sixteen years which I have practiced medicine, and that, too, in a country practice. The two cases I am about to report occurred in succession, with only five days intervening between them; and their similarity in so many respects being so striking and peculiar, I have deemed them worthy of a record. That it should fall to my lot to witness so many cases of placenta prævia, when the rarity of such abnormalities is, as already stated, as one in 500 or 1,000 cases, is only equaled by the fact that I have only witnessed one case of breech presentation, although the frequency of this class is as one in fifty labors, during that same number of years, barring out, of course, those cases occurring in plurality births and those artificially made into footlings, etc.

Apropos to this subject, I will also, with your permission, recall what may properly be called a coincidence, and which I deem sufficiently worthy of mention here, videlicet, when taking leave of my esteemed preceptor (of whom I can say, as a scholar, as a gentleman, and as a true type of the physician, his superior is not easily found) when about entering on the duties of my profession, he saw fit to give me some valuable advice in obstetrics; and among other things, he especially warned me against being led astray by unusual occurrences, such as placenta prævia, hour-glass contractions, etc., as too many young practitioners were wont to be; "For," said he, "in a practice of some twenty years, I have met with but few cases of the kind." But, nevertheless, he impressed upon me the necessity of recognizing all such abnormalities whenever they happened my way.

However, it so happened that the very next week, in the city of Portage, during the absence of my partner, the late Dr. Waterhouse, I was called to attend my first case of labor, and which proved to be one of the worst and most forlorn cases of placenta prævia it has been my fortune to attend, the unfortunate parturia having been under the charge of an ignorant female doctor for at least twelve hours before I was called to the case; and, on account of the enormous quantity of blood lost, she was not only exsanguinated, but pulseless, and in all respects bordering on the moribund state. From that first case to the present day the same good fortune as to cases of placenta prævia has followed me uninterruptedly, as the following cases, to some extent, can attest:

CASE I.—On November 12, 1881, I was called to attend Mrs. J. P., a multipara, a native of Wales, possessing good constitution and vigorous health, in her 30th year of age, and in her sixth confinement. I reached the place of her residence about midnight, and found the patient in bed, in the supine posture, head depressed and hips elevated, with cold wet cloths applied to the hypogastric region. While in the act of examining her, I discovered that both upper and lower extremities were ligated, the first above the elbows, and the latter above the knees, and that the extreme or distal end of each limb was, on account of the impeded arterialization of the blood, in a livid or cyanosed condition. On inquiry, I found that the patient was carrying out a plan which her mother had adopted many years since, while laboring under like circumstances, and which method, she averred, proved entirely effectual in arresting the hæmorrhage until the arrival of the physician, several hours afterward. This, then, was my first lesson in the use of ligatures around the extremities, as a means of hemostasis in uterine hæmorrhage; and, in this particular case, I have no doubt that it proved of some avail. After removing the obstructions, I immediately passed my hand into the vagina, and found the os sufficiently dilated to admit of two fingers; and, finding a severe gush from the uterus, I at once, as is my invariable practice under like circumstances, swept my index and middle fingers between the placenta and the uterus, and succeeded in separating their connection, to the extent of the length of my fingers, which operation at once lessened the severity of the hæmorrhage. Finding, however, on auscultation, that the fœtal heart indicated much exhaustion, I concluded to at once turn and deliver, *i. e.*, as soon as the os could be sufficiently dilated to admit of my hand, and, after slight digital dilatation, I found the os responding readily to my manipulations, even to the extent of admitting the hand. I then searched for a passage between the placenta and uterus, but finding none, I concluded to perforate that organ, which I did with the greatest ease, and after which, I turned and delivered, the product of my efforts being a male child, of the avoirdupois of seven pounds. The placenta soon followed, and the patient made as good, if not as rapid, a recovery, as after any of the previous labors; and, in corroboration of this fact, and also for the purpose of showing the fecundity which is possible, under certain adverse circumstances, I will further state that on August the 18th, 1882, six days less than nine months from the

last labor, I delivered the same woman of a viable child.

CASE II.—On November 17th, 1881, five days subsequent to the first case, I was called to attend Mrs. A. J., a multipara, a native of Germany, of good physique and excellent health, in her thirty-sixth year of age, and in her sixth confinement. I found the patient, from excessive loss of blood, much exhausted, as well as wearing the pallor of death, being barely able to speak above a whisper. A noted but ignorant midwife (lately imported from the land of Gambrinus), had been in attendance all day, having, in the mean time, administered to the unfortunate parturia several draughts of some "black stuff," which no doubt was the fluid extract of ergot. Finding no progress, save that of hæmorrhage, she concluded about dusk to inform the family that "she guessed labor was indefinitely postponed," consequently she would retire to her home, and if it would be necessary, at any time to call her to do so at once, as she averred that when the "baby came" it would be "very much quick in a hurry." The husband called me about midnight, and on examination, I found the os much contracted and unyielding, barely admitting the point of the index finger, and, no doubt, the immediate result of ignorant administration of the oxytocic. However, persistent and unyielding digital dilatation finally forced the os to dilate sufficiently to admit of two fingers, when I concluded, as before, to separate the utero-placental relation, as far as the length of my fingers would permit; and, on account of the renewed and severe paroxysm of hæmorrhage, and the dilatability of the os and cervix after the detachment, I concluded, as in the other case, to perforate the placenta, enter the uterus, turn and deliver, which I did with ease and celerity, the result of my efforts being a dead female child of the weight of six pounds. The placenta, as in most cases of mal-implantations, soon followed; and the mother made a good, but not as rapid, a recovery, as she of the first case.

I am fully aware that many authors condemn the practice of perforating the placenta—that such practice is fraught with danger to both child and mother—but I firmly believe, especially in cases where the placenta is centrally implanted, the hæmorrhage in alarming gushes, and the life of the mother and child in imminent danger, that the method which I adopted offers a safer and speedier means of relief than any other plan known to me. The process of perforating the placenta, by insinuating the fingers through its spongy tissue, is easily and quickly done; and by this same process, so easily and quickly accomplished, we can successfully control the hæmorrhage, for, the moment the fingers are passed through, then the hand, and subsequently the arm, it will at once be seen that by each of these successive movements, we not only completely plug the os, but we also bring an amount of compression to bear on the bleeding portions of the placenta and cervix, that is at once sufficiently effectual to arrest the hæmorrhage; and, not only this, but when the arm and hand are withdrawn, the legs, hips, trunk and head of the child, are brought down in succession (or in an uninterrupted course of plugging from the start), and, as a consequence, they again, in their turn fulfill the same office, only in a more efficient manner, until the child is born, and the impending danger is averted. Another fact in favor of this mode of procedure, is the dilatability of the os and cervix in cases of placenta prævia hæmorrhage, for I know whereof I speak, when I aver that the uterus, from loss of blood in these cases, is rendered more passive and dilatable, and consequently, version is made easier of accomplishment than in any other mal-presentation, a fact which I discovered as soon as my fingers broke up the utero-placental attachment of my first case, some sixteen years ago, the os and cervix having relaxed and dilated with a rapidity unknown to me under any other condition or circumstance. Therefore, with these facts before me, I believe that, without a doubt, *perforation*, *version* and *delivery*, and that too, at the *earliest moment practicable*, is the only true method of dealing with placenta prævia centralis, for, as far as my knowledge and experience extends, this is the method of all others that offers the greatest protection and safety to the life of both mother and child. Whether the patient is greatly exhausted from excessive flooding or not—whether she is, from exsanguination, hovering as it were, on the "border land," while her attendant is on the "ragged edge" of despair, it matters not—for I believe that in all cases, where the os and cervix uteri is dilated or dilatable, (and, as already stated, this condition is rarely absent in cases of excessive placenta prævia hæmorrhages), that immediate resort to this plan of procedure is our imperative duty; and, with a full consciousness of the importance of the subject, I am ready and willing to be placed on record, as saying—*that, without a doubt, rapid perforation, version, and delivery, offers the easiest, speediest, und safest chance of life to the child, and reeovery to the mother, of any manner or mode of management heretofore advocated and known to me.* Many of those treated by me, on this same method, were so far exhausted (and whose prostration was so appalling that death seemed inevitable) as to make me doubt the propriety, as well as the advisability, of doing anything in their behalf, but believing as I do, whenever I am called to the bedside of even so forlorn a case as some of these appeared to be, that it is my duty to do something, and that something my very best. I have been gratified in each and every case, to see, after the removal of the fœtus and secundines, a return of vitality and conscionsness, as well as complete reaction and restoration. It is no wonder, then, that I am of those who firmly believe that a patient cannot be so far exhausted as to render turning too hazardous an undertaking, especially when we know that the very life of the parturia is depending on the successful removal of the contents of the uterus. The Mickawber-like inactivity of some physicians, in the presence of so great a lesion as that of placenta prævia, by adopting the policy of "folding the hands," or "let alone," as if a correction of the mistakes of nature could be ameliorated by their own mistaken notions of "let alone," is to me, not only *culpable*, but *criminal*.

To corroborate the statements already made, provided that figures carry any force with those who may believe otherwise, I will state that out of the number cases which fell into my hands—seventeen in all—I did not lose a single mother, although in opposition to this fact again, I must acknowledge the loss of all the children, but one. It is well known, however, that in cases of placenta prævia, the mortality is notoriously great—*the mothers as one in three, and the children as one in two*—yet with such a mortality among mothers, I lost none, whereas among the children, I lost all but one. In extenuation of this great mortality of children, among the cases I attended, I have this to offer, videlicet, that eight-tenths of all the cases had been in the hands of ignorant women or incompetent practitioners, for at least ten, and, in some instances, more than twenty hours, previous to my taking charge of them; and the loss of blood, in the majority of cases, was so excessive and prolonged, that it were folly to look for anything save an asphyxiated fœtus, as the result of so reckless a mismanagement; and the greatest wonder to me is, not so much the loss of the children, but the good results which followed the mothers. In only one of the seventeen cases witnessed by me, could I hear the fœtal heart distinctly and without a doubt, and that was case I of this report; and of every mother, although version was resorted to in every instance, none were lost, but all recovered, with nothing worse than phlegmasia dolens (in two only), as sequelæ. I attribute my success, in regard to the mothers, to my invariable practice of delivering as soon as possible; and when ever this was interfered with, by a tense, rigid and unyielding os, a resort was had in every instance to immediate digital dilatation, the readiest as well as the most feasible and effective mode of dilation: and, although sometimes this proceedure would appear slow, tedious and ineffectual, nevertheless I found that firm and persistent manipulations invariably succeeded in sufficient dilatation to admit of the hand, and thus, at the outset, secure safety from flooding. In one case only did I use the tampon (for the purpose of arresting hæmorrhage and aiding dilatation), and that one case proved too many to warrant a repetition of the same procedure, for I nearly lost my patient on account of its inadequacy and deception. Barnes' dilators were tried and discarded, on account of their impracticability and insufficiency, the difficulty of keeping them in position, in cases of placenta prævia, proving them as worthless in these instances, as they are useful in cases of normal cephalic labors.[1] In no case did I use the forceps, and that for the very good reason that I am emphatically opposed to the use of that most useful of obstetric aids, in any and all cases of head last deliveries. My reasons for excluding the forceps in these cases, when it is so universally recommended, by authors and teachers, is this—*it is not only unnecessary, but unintelligent, as well as a wrongly applied force!* The head, in my opinion, can be disengaged quicker, easier and safer, by the manipulations of the accoucheur, provided he is thoroughly versed in the mechanism and physiology of labor in breech presentation, than by the use of the forceps, even if wielded by the most dexterous manipulator; and to affirm with confidence that I can disengage any well proportioned head from a normal pelvis, by manual efforts alone (aided if necessary, by the nurse or any other person present, when supra-pubic pressure is necessary), in less time than it is possible to apply one blade of the forceps to the side of the child's head, is as free from "excessive egotism," as it is possible for an honest belief to be. In making this statement, I am fully aware that in all cases of head last deliveries, whether in natural cases or those artificially made, that the supreme moment of danger to the child is, when the head approaches the brim and becomes engaged in it, for it is about this time that the uterine forces lose their power of assisting the further expulsion of the child, As in normal breech cases, so in those artificially produced, whether from placenta prævia or other causes, it matters but little how long the labor has lasted thus far, if the hæmorrhage has been brought under subjection and fully controlled, provided of course the funis has been protected, by being placed where it will receive the least compression, and, provided also, that the shoulders have been promptly and completely rotated, so as to bring the bis-acromial diameter of the shoulders into the conjugate diameter of the pelvis, for by this movement we succeed in placing the head in the transverse diameter at the brim, in which position, even if extended, sufficient room will be found to bring it down and have it delivered with a rapidity and ease that will warrant its integrity and viability; and I believe the power necessary to accomplish all this, should be in the accoucheur's own well-instructed brain, and not in a dependence on his iron instrument, the obstetric forceps; for any other plan of procedure is not only unintelligent, but a wrongly applied force.

In conclusion, I again repeat, that in all cases of placenta prævia, especially if centrally implanted, provided that it is evident to the attending physician that the hæmorrhage is in alarming gushes, and about to overwhelm both mother and child, or that the hæmorrhage is such as not to yield without first emptying the uterus of its contents, immediate digital dilatation, perforation of the placenta, podalic version (and that too by introducing the hand into the womb), and rapid delivery, offers the quickest, easiest and safest mode of relief, in our opinion, of any yet suggested.

[1] "I had one case in which the excessive action of the uterine contractions had violently detached and forced the secundines into the vagina, where I found them several hours afterwards, while the fœtus was yet within the cavity of the uterus.

GASTRO-ENTEROTOMY FOR INTESTINAL OBSTRUCTION. TWO CASES—BOTH FATAL.

BY W. M. FUQUA, M.D., HOPKINSVILLE, KY., SEPT. 1, 1883.

In the summer of 1880, I visited a negro man on the premises of Mr. Campbell, in Trigg county, in consultation with Drs. Boyd, Edwards and Worthington, of LaFayette. He had suffered from ob-

structed intestine for about a week; was 35 or 40 years old, and in the main had good health. The patient presented the following condition: Tenderness and tympanitis over the whole abdomen, right side of abdomen most prominent and resonant; pulse 130; respiration 24; stercoraceous vomiting; skin cool, and tendency to collapse. Rectal examination revealed nothing. After a careful and thorough discussion, it was unanimously agreed to make an abdominal section, entertaining the idea that the patient labored under intussusception, looping of the intestine, or some other form of acute obstruction.

After administering chloroform, and drawing off the urine, the abdomen was laid open from the umbilicus to the pubes. The intestines, distended to their utmost, gushed out. The venules and arterioles distributed upon their surface were turgid with blood and plastic with lymph, and so thinned by the distribution that they were semi-transparent. This distension was somewhat relieved by piercing the gut with an aspirator needle. Now, after carefully examining the jejunum and ileum, no obstruction was found, except at a point within 2½ inches from the ilio-cœcal valve, and extending thereto. The large intestine was free from inflammation, except in the vicinity of the obstruction, and was empty. Here we had an organic stricture of the intestine, and its location was of such a character as to preclude resection. So distended was the intestine from its fluid and gaseous contents, that it was opened in two places, and nearly a gallon of fluid matter allowed to escape, after which the intestine was nicely sutured, and returned to the abdominal cavity, which was carefully sponged and dried. The abdomen was carefully sutured with silk, and supported by a wide flannel bandage. The question of artificial anus was not taken into consideration, because of the condition of the patient, who died soon after the wound had been dressed.

Case Second.—In June, 1881, I visited Mrs. M., in consultation with Dr. J. C. Whitlock, and Dr. Job Cooper. This lady had always been of good health, was about 36 years old, and the mother of several children. Occasionally she had light attacks of colic, from which she easily recovered, without applying to her physician. Some six or seven days prior to my visit she had one of these attacks, and not getting as prompt relief as usual, her husband sent for Dr. Cooper, and subsequently Dr. Whitlock. The gentlemen failing to remove the intestinal obstruction after using every legitimate means, requested me to come and make a laparotomy.

The patient presented the following condition: no action from the bowels for six days; great nausea and vomiting, and had cast up sturcoraceous matter; was very restless, with occasional pain around the umbilicus; pulse 120—respiration 20; skin warm and perspiring, with a temperature of 102 F. The abdomen was very considerably swollen, intestinal resonance distinct over nearly the whole surface, rectal examination revealed nothing. Now, after carefully weighing every feature and symptom in this case, we unanimously agreed that nothing short of abdominal section, offered any hope of relief. Both the patient and her husband, and children, were anxious the operation should be done. The preparations for the operation were carefully made, and no detail, however trifling, was omitted. The abdomen was carefully cleansed, as well as the sponges, instruments, and the hands of those who should assist, with carbolic acid solution. To Dr. Geo. Campbell, of this city, the chloroform was intrusted. After drawing off the urine, I opened the abdomen from the umbilicus to the pubis in the usual manner, and when the omentum was turned aside the small intestines gushed out together with a considerable quantity of red serum, and what remained of this fluid was carefully sponged out. The peritoneum was greatly inflamed, as well as the entire intestinal tract, and upon its surface patches of lymph were to be seen everywhere. The small intestines were greatly distended, partly by its fluid contents, and by gas. The intestine was pierced by a large aspirator needle. The gas was allowed to escape. After carefully tracing the whole intestinal tract, to our great surprise, no obstruction was found at any point of its course, and we learned to our chagrin and disappointment, that we had been deceived in our diagnosis, and that this case must be accounted for on the grounds of inflammatory action and paralysis, from over-distintion. In order to more effectually relieve the over-distended gut, the intestine was carefully opened, and a gallon of highly offensive fluid, was allowed to escape. Now, after closing the intestine with the glove suture, and the abdomen sponged out and dried, the abdominal wound was accurately adjusted, and held in place by silk sutures, and, over which, a large compress wet in carbolic acid solution, was placed, and held in position by a wide flannel bandage. The shock in this case was fearful—the operation lasting 40 minutes, and it was several hours before reaction was established. After this was done the patient expressed herself as feeling better. Opium and calomel, directed in moderate doses every 3 hours, and belladonna in small doses every 4 hours, with compress wet with solution of carbolic acid, kept continuously over the abdomen. This lady survived the operation about 24 hours.

REMARKS.

I place on record these two fatal cases of gastro-enterotomy because they were fatal; secondly, that they resulted from the direct effects of acute inflammatory action, and not the remote effects, as from organized fibrinous exudation; thirdly, that our diagnosis was fallacious. In either of these cases, so soon as the peritoneal cavity was opened, and the extensive inflammation revealed, together with the red serum, the result of this grave action, there could be no doubt of the prognosis, whether the obstruction be relieved or not. The unavoidable gushing out of the bowels, their consequent exposure to the air for some time, and the subsequent enterotomy, was ample to account for the shock in both cases.

Further, it will be readily observed that diagnosis is of the first importance, which should be determined in the onset of the case, and if delayed many complications must arise which would preclude accu-

racy of diagnosis, and when doubt exists, an exploratory incision is warranted.

When a hernia is recognized, and taxis fails, we count it good surgery to release the incarceration, and all experience teaches the longer the delay the greater the danger. Unhappily, no taxis except in an indirect way, can be resorted to in concealed intestinal obstruction, and hence the greater necessity of prompt diagnosis and corresponding surgical action.

MEDICAL PROGRESS.

ACTION OF ALCOHOL ON THE HEART.—The following is quoted from an article by Professor Martin, of John's Hopkins University, in the Maryland Medical Journal for September, 1883.

Although the physiological effects of alcohol manifest themselves in many directions, we can only hope to arrive at valid conclusions by taking up the questions one by one. Our own researches made on dogs have been confined to a quite limited field, viz.. what is the direct and immediate action of alcohol upon the heart, both as to its rate of beat, and as to the work done by it in a given time. Chronic abuse of alcohol of course affects the heart; but our inquiry has hitherto been limited to the immediate action upon the heart of a moderate quantity of pure alcohol added to the blood flowing through it; the heart being put entirely out of control by extrinsic nerve centers, and isolated from all other organs but the lungs. In other words, our problem was. What is the immediate action, if any, exerted upon the heart by a single dose of ethylic alcohol?

As regards action upon the pulse-rate, our experiments confirm those of Zimmerberg and others, alcohol in doses not directly poisonous does not affect the rate of beat of the heart.

As to the influence of alcohol upon the work done by the isolated heart we have, however, obtained some results which we believe to be new.

Our method of experiment was as follows: A dog having been placed fully under the influence of morphia sub-cutaneously injected, its heart and lungs were isolated in the manner which I had the honor to describe to this Faculty two years ago.[1] The heart was then fed with defibrinated blood obtained by the previous bleeding of other dogs, and supplied to the superior vena cava, under a constant pressure from Mariotte bottles. These bottles were four in number; two of them arranged to contain and distribute blood containing no alcohol, and two of them blood containing alcohol. By stopcocks any bottle could at will be connected with the heart. At the commencement of the experiment the heart was fed with blood mixed with one-fourth its volume of 0.75 per cent. solution of sodium chloride in distilled water—2,000 cubic centimeters of blood mixed with 500 cubic centimeters of the salt solution. This blood, passing from right auricle to right ventricle, was sent through the lungs to the left heart, and from the left ventricle was pumped out into a tube connected with the right carotid artery. The aorta was ligatured immediately beyond the origin of this vessel. The tube connected with the right carotid conveyed the blood to a height sufficient to maintain about an average arterial pressure, as measured by a mercury manometer connected with the root of the left carotid. The pen of this manometer recorded on the kymograph not only the average arterial pressure, but the pulse rate. Uniform and free artificial respiration was maintained by a water engine.

The mode of work was as follows: One of us took charge of the kymograph, and was also responsible for time signals. All being ready, the heart was placed in connection with a flask containing good blood and allowed to pump blood from this flask into another. Let us call the four flasks A, B, C, and D respectively. When flask A was empty and B filled, it was easy, by opening and closing the proper stopcocks, to supply the heart from B and let it pump into A, and so on, to and fro, with the good blood for a certain time. At short intervals the blood pumped out by the heart in a minute was collected separately and measured. As soon as it was found that this work was pretty constant, varying not more than 10 cubic centimeters in a minute, the good blood was shut off and the poisoned blood from C turned on; this was pumped into D and collected there. While this poisoned blood was circulating, the quantity pumped out by the heart was measured from minute to minute; then good blood again turned on, and the measuring continued. Any experiment in which the heart did not under these circumstances show marked recovery from the action of the alcohol was rejected, so as to avoid the risk of ascribing to the alcohol something which was possibly due to the independent death of the heart.

The general result of our experiments may be primarily stated as follows: *Blood containing one-eighth per cent. by volume of absolute alcohol has no immediate action on the isolated heart. Blood containing one-fourth per cent. by volume, that is two and a half parts per thousand of absolute alcohol, almost invariably remarkably diminishes within a minute the work done by the heart; blood containing one-half per cent. always diminishes it, and may even bring the amount pumped out by the left ventricle to so small a quantity that it is not sufficient to supply the coronary arteries; hence blood is drained off by them from the outflow tube and at last none is pumped out from its upper end at all.*

We may here point out that the dose of alcohol was not *a priori* a large one. A man weighing 150 lbs. contains about 11½ lbs. of blood; one quarter per cent. of this is 0.46 of an ounce, a quantity exceeded by that in a single ordinary drink of brandy, and some people take a good many such drinks in a day. Moreover, the alcoholized blood in our experiments could hardly have acted on the heart as it flowed through its cavities; it must almost certainly have acted on the heart after it flowed through the coronary arteries to the capillaries of the organ and came into close relation with its muscular and nervous

[1] Transactions of the Medical and Chirurgical Faculty of Maryland, 1882, p. 203.

tissues. To get to these capillaries it had first to circulate through the lungs, and there is no doubt some of even the small quantity of alcohol present was eliminated.

What is the cause of this diminution in the quantity of blood pumped out?

Differences in the flasks and rubber tubes being excluded as causes of the phenomenon, we have to seek for it in some action exerted by the drug on the living organs; and here several possibilities suggest themselves. It might be that the alcohol constricted the pulmonary vessels, and so prevented the blood from reaching the left ventricle as freely as before; or it might be that it dilated the coronary arteries and so drained off more blood through the coronary circuit, and thus left less to be pumped out from the exit of the outflow tube; or it might be that the pumping power or the capacity of the left ventricle was altered; or, of course, there might be combinations of these.

We were set on the right track one day when we modified the experiment by cutting away the pericardium before administering the alcohol. To our surprise, even blood containing ½ per cent. of alcohol now had little or no effect on the work done by the heart.

We tried this repeatedly in another manner. Keeping the heart in the pericardium, we administered alcohol and got the usual result; then recovered the heart by good blood, cut away the pericardium, again gave alcohol, and now with little effect. As the absence of the pericardium could hardly in any conceivable manner prevent constriction of the lung arterioles, or prevent dilatation of the coronary vessels, it was clear that neither of these would account for the results of the administration of alcohol.

Our attention was therefore turned to the proper heart substance. Direct observation of the organ, in fact, showed it to become enormously distended when supplied with the alcoholized blood. Normally, the dog's ventricle contracts so as to completely empty itself and obliterate its cavity. Under the influence of alcohol this is entirely changed; the ventricle ceases to contract completely; even at the height of its systole the organ completely or nearly completely fills the pericardiac sac; in its diastole it has little or no room to expand further and take in a fresh supply of blood.

Hence a great diminution in the quantity of blood which it has ready to pump out at its next contraction. If now the pericardium be cut away, the heart enlarges enormously in diastole, takes in its usual quantity of blood, and drives it out at the systole; hence the organ performs its usual amount of work. This seems to show that the muscular power of the organ is not at first influenced; if the heart be not confined in the pericardium, and the quantity of alcohol in the blood flowing through it does not exceed ½ per cent. by volume, the work done is not affected, at least for a considerable time. It is not the contractile power, but the elasticity of the cardiac muscle that is influenced; its "tone" is lowered, and it works under new, and, when the pericardium is present, very unfavorable conditions. It acts like a greatly relaxed muscle, which contracts to half its normal extent, compared with a healthy muscle, in good tonic state, which when fully extended is shorter than the atonic, and whenever it contracts, contracts more completely; and, so far as the heart is concerned, to the fullest possible extent. If, however, the administration of alcoholized blood of ¼ or ½ per cent. be long continued, or if blood containing 1 per cent. of alcohol be used, then, even with the pericardium removed, the systole becomes feebler and feebler, the work done less and less, and finally *nil*.

Whether alcohol directly combines with the cardiac muscular tissue, or whether it indirectly influenced it by interfering with its nutrition, we are not able to say. The rapidity with which the effect manifests itself seems in favor of direct poisoning; on the other hand, the dog's heart will only bear a very brief deprivation of oxygen, and it has been shown that alcohol added to the blood makes it hold its oxygen more firmly and yield it less readily to the tissues; and the heart subjected to alcohol has very much the appearance of the heart of an asphyxiated animal. On the whole, we are inclined to think that the poisoning is direct.

We have made a few experiments to see what dose of alcohol given by the stomach to a dog will produce some similar action on the heart. When the heart lies in the body and in connection with the central nervous system, there are of course considerable difficulties to be overcome, and all we can say as yet is, that to get any distinct influence on blood pressure, one must put much more alcohol into the stomach than an amount equal to ¼ per cent. of the total blood in the animal. It is either not absorbed fast enough to reach at any moment the heart-poisoning limit, or, more probably, is picked up by other organs, very likely the liver, and held back from the heart.

We then tried in another way, by directly injecting into the jugular vein of a curarised dog a small quantity of salt solution containing an amount of alcohol equal to ¼ per cent. of the total blood of the animal, reckoned as one-thirteenth of its weight. In such cases we found usually a very temporary enfeeblement of the heart, indicated by a lower arterial pressure, but this seems only to last while the injected solution is flowing through the organ, or for a few seconds afterward. Before the blood returns it has apparently deposited its alcohol elsewhere in the body, or at any rate got rid of it somehow, so that it no longer acts immediately upon the heart, at least to a directly noticeable extent.

SALICYLATE OF BISMUTH IN TYPHOID FEVER.—This has been recommended lately, and to any desirous of testing its virtues the following, from the *American Journal of Pharmacy* for September, may be of interest:

Dr. Desplat, who is favorably known by his numerous theses on the antiseptic treatment of fevers, especially by a memoir published last year on the treatment of typhoid fever by carbolic acid, after long experimentation with various salicylates in typhoid fever, has found the salicylate of bismuth the great

desideratum. In his experience it has even had a marked abortive action. Out of twenty cases reported by him eleven treated in the first stage were cut short in four or five days under the free use of salicylate of bismuth. The ordinary dose is about a scruple. This was repeated, so that the daily quantity taken should equal about six grammes.

This salt is comparatively unknown in this country. As it is not readily prepared by double decomposition from the other salts of bismuth with salts of salicylic acid, it can only be formed as a sub-salicylate. This salt is a soft white powder, insoluble in water, without separating the salicylic acid on heating to boiling; but it is readily soluble in dilute muriatic acid when boiled, the salicylic acid separating on cooling, in flocculent white crystals. Care must be taken in its preparation to avoid too much heat, as the tendency is to convert the salt into ordinary oxide of bismuth and salicylic acid. Whether it is superior to the salicylates of the cinchona alkaloids is not mentioned, but if its value as a remedy should be owing to its difficult solubility, possibly they may prove as efficient, for the salicylates of quinine and cinchonidine are very difficultly soluble in water, and would hardly be as likely to prove irritants in case of violent inflammation of the diseased vitals, where, if particles of undecomposed salt of bismuth could aggregate, might produce very dangerous results.

USE OF NAPHTHOL.—The following opinions weer expressed in regard to the usefulness of this drug, at the meeting of the American Dermatological Association, Aug. 29: Dr. Van Harlingen found it of great service in scabies, also of some value in the treatment of psoriasis. In parasitic skin diseases it was of but little use, while in eczema and hyperidrosis it was entirely without value.

Dr. Fox had tried it externally in almost every case where he could possibly employ it, and had become convinced that it fell far short of taking the place of tar. In a few cases of eczema of the scrotum and anus he had obtained very satisfactory results from the application of a five-per-cent. ointment. For psoriasis of the scalp and face the ordinary white-precipitate ointment has served more satisfactorily.

Dr. Hardaway did not find it as useful as chrysophanic acid in psoriasis and eczema. In the fissured and squamous eczema of the palms of the hands and fingers he had employed a fifteen per cent. ointment successfully.

Dr. Stelwagon thought for psoriasis of the scalp that it was less valuable than white-precipitate ointment. It is efficient for scabies.

Dr. Piffard thought it a dangerous remedy.

Dr. Taylor had used it successfully in scabies, but in psoriasis it had not proved efficient.

SEXUAL DIFFERENCES IN THE SURFACE OF THE BRAIN.—Attention is called to the following facts of interest by Dr. Thomas Dwight in an article in the *Boston Medical and Surgical Journal* for September 6:

Very little notice has been taken of the influence of sex in the size and shape of the brain, and more especially the convolutions, in spite of the great attention the subject in general has received. Nearly thirty years ago Huschke maintained that differences in the convolutions of the male and female brains could be detected. He stated that as a rule the fissure of Rolando was more nearly vertical in woman than in man, so that the distance of the top of the fissure from the posterior end of the brain was relatively greater in the former. Consequently in man the frontal lobes, and in woman the parietal, were relatively the larger, and the female brain was rounder. Recently Professor Rüdinger, of Munich, has taken up this subject, and has turned his attention to fœtal brains. He states that in most male fœtal brains the frontal lobes are more massive, broader, and higher than in female ones; that the convolutions in the female fœtus of seven or eight months are much simpler than in the male. He finds, also, that the fissure of Rolando is more oblique in the male than in female, and consequently there is more cerebral matter in front of it in the former and behind it in the latter. Dr. Passet has also devoted himself to the study of these questions, and has made careful measurements of twenty male and seventeen female brains. The fissure of Rolando, he finds, is more oblique in the male than in the female, and is also longer and more curved. It lies both absolutely and relatively further back in man; in other words there is more cerebral matter in front of it. The male brain is pretty clearly longer, broader, and higher than the female. As the male brain is the larger, it follows that the fissure of Rolando is more distant from both the coronal and lambdoidal sutures than in the female. The parieto-occipital is usually in front of the lambdoidal suture in both sexes, but is likely to be more distant from it in the male.

EGYPTIAN CHOLERA.—The further investigations are carried in reference to the origin of the severe cholera epidemic in Egypt, the more probable it appears that the disease was of local origin. As bearing upon this subject, the following will be read with interest:

A letter from Cairo to the *London Standard* says: "Dr. Schaffey Bey, who was dispatched by the Egyptian government to report on the origin of the outbreak of cholera in Damietta has issued his report. After giving an account of the almost incredibly unsanitary state of the town and of the mode of life of the inhabitants, Schaffey Bey finally concludes that the theory of the importaion of the disease from India is altogether untenable, and he draws up his conclusions as follows:

"We find that besides the points already noted, which stamp Damietta as the type of an unclean town, there are the following circumstances to be considered:

"1. The mouth of a river dried up by prolonged drought, with its banks and part of its muddy bed fermented under the sun's action, exposed.

"2. This river carrying along with it (and depositing them at the bend formed at Damietta) thousands of carcasses of animals which it throws up at its edges, to putrefy under the damp heat.

"3. It is at this place the river receives the outcome of the drains, animal and vegetable refuse, and all sorts of filth which the current cannot carry off, being beaten back by the waves of the sea.

"4. The miasmata generated by all this putrefying matter here mixes with the vegetable effluvia rising from the marshes, from a soil full of organisms, and from the wide rice-fields which surround the town.

"5. It is the water of this river which supplied all the needs of most of the inhabitants and of more that fifteen thousand persons from various parts of Egyyt who assembled at Damietta for eight consecutive days at the fair of Sheikh Abou el Maati. An analysis of this water by the government expert proves it to teem with impurities.

"6. During the eight days of the fair regular orgies were held, exclusively of the flesh of animals who died of bovine typhus, and whose skins now fill the store-houses of the town.

"7. It was immediately after the fair that the disease broke out.

"8. The 19th, 20th and 21st of June were marked here by a sudden rise of temperature.

"9. The epidemic broke out chiefly in the most unhealthy and thickly populated quarter, inhabited by the poor, who drank only the water of the river and canal.

"10. The disease remained for some time localized at Damietta before spreading further, and its spread was invariably in the towns on the river, or carried by sick emigrants from Damietta, as proved by the towns of Port Said, Alexandria, Ismallia and Suez.

"These facts seem to prove that the same conditions, cosmic and hydrotelluric, which are present at the genesis of cholera germs in the Indian delta, and on the banks of the Ganges, were accidentally observable this year in the Egytian delta and on the banks of the Nile."

There is much more of interest in the report, but the above extracts give the pith of it. From personal knowledge of the town of Damietta, I am able to vouch for the accuracy of the description of it. As to the remarks on the water supply, they hold good more or less in regard to any town in Egypt. It is probable that Dr. Hunter, on his return from the inspection he is now making, will be able to add further to our knowledge of the cradle from which cholera sprang this year.

A parliamentary paper has been issued, containing a report from Surgeon-General Hunter, to Sir Edward Malet, on the cholera epidemic in Egypt. The report, which is dated Cairo, Aug. 6, states that "it is simply an abuse of words to talk of sanitation in connection with Cairo, every sanitary law being grossly set at defiance;" and adds, that "conditions for the development and spread of disease in almost every form, epidemic or otherwise, abound. They are here, there, and everywhere present to the sight, smell and taste." After expressing the opinion that in all essential features the type of the epidemic does not differ from cholera, as it is experienced in India, Surgeon-General Hunter proceeds:

"It is gratifying to be able to state that the epidemic is on the wane, although still widespread over the country; and the type, as usual in declining epidemics, is much less severe. The number of deaths from this disease, reported up to the 31st of July, is said to be 12,600. Registration is, however, so defective, that this statement must be taken with much reservation. I am inclined to think that it is nearly double this total. The organization of the medical department is in a most primitive condition, and many of its officers are quite incompetent. The latter are broadly accused of being ignorant, and of neglecting their duty through personal fear. That there are many honorable exceptions to this rule, I believe; nevertheless, the allegations preferred, have come to my personal knowledge. In pleasant contrast to this I would observe that the Egyptian soldiers are loud in their gratitude for the devotion displayed by their English officers to their necessities, during the present crisis." Dr. Hunter suggests the thorough reorganization of the medical department, and the establishment of a sanitary department.

THE eighth annual meeting of the American Gynæcological Society will be held at Philadelphia, from the 18th to the 20th of this month. It is expected that the following members will read papers: Dr. J. T. Johnson, of Washington, on Superinvolution of the Uterus; R. S. Sutton, of Pittsburg, on Importance of Cleanliness in Surgical Operations; C. D. Palmer, of Cincinnati, on Some Points Connected with the Subject of Dysmenorrhœa; T. A. Reamy, of the same place, on Unusual Form of Abdominal Tumor; A. R. Jackson, of Chicago, on Is Extirpation of the Uterus a Justifiable Operation; G. Kimball, of Lowell, A Sketch of Dr. Nathan Smith; C. C. Lee, of New York, on Management of Accidental Puncture and Other Injuries to the Gravid Uterus as a Complication of Laparotomy; E. W. Jenks, of Chicago, on A New Method of Operating for Fistula in Ano; G. J. Engelmann, of St. Louis, on Ergot; the Use and Abuse of this Dangerous Remedy; H. L. Campbell, of Augusta, Congenital Fissure of the Female Urethra, with Extrophy of the Bladder and Menstruation After Extirpation of the Ovaries; W. H. Byford, of Chicago, Remarks on Chronic Abscess of the Pelvis.

THE University of Niagara has established a medical department in Buffalo. The course of study will be graded, and will extend over four years. Each annual course will continue for six months. Examinations are to be conducted by a board of medical men, unconnected with the faculty. The lectures will be given for the present at the Hospital of the Sisters of Charity. The first session will commence on the 10th of next month.

THE Municipal Council of Paris has recently voted the sum of $400,000, to be devoted to repairs and additions to hospitals already existing, and $200,000 toward the erection of a hospital for the treatment of chronic diseases, a hospital for small-pox cases, and a children's asylum for incurables.

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THE EDITOR of this JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information, should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, SEPTEMBER 15, 1883.

THE AMERICAN MEDICAL ASSOCIATION.—In the present number of this journal will be found the complete paper read by the President of the Association in the Section on Medicine of the British Medical Association, at its recent meeting in Liverpool, with illustrative cases. It relates to a question of decided practical importance, which is liable to confront the practitioner at any time, and in almost any department of his work. But reference to the chief officer of the Association, reminds us that now is the time for all who desire to improve both the quality and quantity of important work done in its several Sections at the next meeting, which is to be held in Washington, to enter at once upon the necessary preparation. The plan of organization is favorable for good, practical work. The number of Sections affords a sufficient division of labor to accommodate alike the general practitioner and the special cultivator of any one of the more limited fields of science or practice. Only two things are necessary to make the practical results of the working of the several Sections at each anniversary meeting not only highly satisfactory and profitable to those who may attend, but also such as would do honor to the profession of this or of any other country. The first is that each member of the Association should attach himself permanently to some one of the Sections, in which he should cultivate a special interest, and for the practical working of which he should feel conscious of a certain degree of personal responsibility. Thi would speedily increase both the stability and effi ciency of each Sectio, and greatly encourage the officers of each in the prompt performance of their duties. The second is the devotion of more time and thought to the selection of the topics and the preparation of the papers and discussions that are to occupy the time of the Sections at each successive meeting.

For instance, those who are intending to present papers or the results of any original investigations at the next meeting, should commence their work early in the season, that it may be fully completed before the time of meeting; and they should notify in proper time both the officers of the section in which they propose to work and the Chairman of the Committee of Arrangements, of the nature and extent of the matter they intend to present, that the said officers may have the opportunity to assign such proposed work to a proper place on the programme. But in addition to such voluntary contributions, each section, through the recommendations of a judicious sub-committee appointed for that purpose, should select a certain number of questions for investigation and discussion at the next annual meeting, or plan certain lines of original investigation, and assign them to members specially qualified for the work, with instructions to report progress at each subsequent meeting until their work was completed. Such a course persistently carried out would cause the regular annual meetings of each Section to be well attended, and crowded with important matters for the consideration and profit of its members. The excuse for non-action heretofore made by many prominent members of the profession, that communications, however valuable, if made to the Association or any of its Sections, would be completely buried out of sight for nine or ten months, and then only appear in a volume that would reach but a few hundred members, no longer exists. The establishing of a weekly medical journal, each issue of which already goes to more than three thousand representative members of the profession, distributed in every State and Territory of our country, affords a speedy and ample medium through which all matters of importance communicated to the Association or any of its Sections, can be promptly presented to the profession at large.

Let every member and officer of the Association think of these things, and act accordingly.

EPIDEMIC DISEASES.—According to the latest advices from Pensacola, no cases of yellow fever had occurred in that city, and notwithstanding some reports to the contrary, a careful inspection from house to house has detected none in the villages, outside

of the grounds belonging to the Naval Station. But few new cases have occurred within the Naval Station during the past week, and it is thought that the disease is on the decline there. No cases are known to exist in any other places in our country outside of quarantine stations to which they may have been taken from infected ships.

It is said that an epidemic form of dysentery of considerable severity is prevailing at Bybalia, in the northern part of Mississippi, from which over sixty deaths have already occurred.

CHOLERA.—Since the cholera epidemic in Egypt is steadily declining, and the fears of an immediate invasion of Europe, somewhat allayed the English government officials, as well as the newspapers and medical periodicals, begin to manifest some irritation at the severe criticisms and accusations that have been freely indulged in by the press on the Continent and especially by that of France. The main charge of having needlessly permitted the introduction of the disease into Egypt from India rather than interfere with her commerce, is explicitly denied by the proper officers of the English government, and repelled with much indignation by some part of the English press. Our advice is that all parties preserve their dignity by holding their temper in subjection, until the numerous scientific and sanitary commissions supposed to be dilligently engaged in the investigation of the origin and nature of the scourge, shall have made their reports. Possibly we may then have a sufficient record of reliably ascertained facts to show whether the disease was really brought from India or whether it originated from the foul air and horribly contaminated water in the valley of the Nile.

PROGRESS OF STATE MEDICINE.

FROM PAPERS PRESENTED TO THE OFFICERS OF THE SECTION ON STATE MEDICINE.

In the last preceding number of THE JOURNAL we copied the report of the representative member of the Section on State Medicine from Illinois concerning the practical working of the State Board of Health of that State, both in its relations to State sanitation and the regulation of the practice of medicine, and also the report of the representative of the medical staff of the U. S. Navy. We now make the following selections of such facts from the reports of representatives from other States as are thought worthy of record. Dr. D. E. C. Ewing, of Arkansas, reports as follows:

"We have forty or fifty local Boards of Health, located throughout the State, in the cities and incorporated towns. They are under the control of the municipal authorities of the cities and towns in which they are located. They act in concert with the State Board of Health to prevent the spread of contagious diseases.

"Our last General Assembly failed to make any appropriation for the maintenance of the State Board of Health. I fear, if we should be visited by an epidemic of yellow fever or small-pox, the State Board would be unable to make the necessary quarantine to protect our people against such epidemic, for want of funds to defray the expenses that would necessarily occur.

"On March 9, 1881, an Act to Regulate the Practice of Medicine and Surgery was approved by the Governor, and went into effect the 1st of July following. This act requires registration in the county clerk's office of each county in the State, establishes a board of three medical examiners in each county, and a State Board of five members, to act in case of appeal from the county board.

"All who shall have practiced medicine, surgery or midwifery in the State for five years preceding the passage of this act, are exempt from examination before the board, and upon proof of two creditable witnesses known to the clerk of said county where they reside, are allowed to register, and be vested with all the privileges of regulars. This law is very defective, but was the best we could get passed by our General Assembly at the time.

"March 9, 1881, the Governor approved an act regulating the sale of poisons. The law requires the druggists to keep a register for the purpose of registering the names of persons buying such (medicine designated as poison), and to register the name of purchaser and kind and quantity purchased, with date of same.

Dr. Charles Denison, of Colorado, reports that the laws creating and defining the duties of the State Board of Health and the State Board of Medical Examiners for that State have undergone no change during the past year. The last legislature, however, passed a law for legalizing dissections and permitt ing the bodies of paupers, dying in public charitable institutions, not claimed by friends for burial, to be used for that purpose.

Dr. J. T. Reeve, of Wisconsin, reports the following concise and interesting items in regard to sanitary measures in that State:

1st. Wisconsin has an organized State Board of Health.

2d. No changes in its organization have taken place, except the appointments of Prof. W. W. Daniells and of Dr. S. C. Johnson in the places respectively of Dr. E. L. Griffin, formerly President of the Board, and General James Binttiff, one of the original members, both of whom resigned, and the election of Dr. S. Marks as President of the Board to fill the vacancy caused by the retirement of Dr. Griffin.

No new powers or duties have been given the Board, but a closer bond of union has been established between it and Local Boards.

3d. A law enacted this past winter makes obligatory the organization of Local Boards of Health, in a sense auxiliary to this Board, in every town, village and city in the State. This law is yet too new to enable me to say anything definite regarding its workings, but every effort possible is being made to put it into efficient, successful working order. Thus far, about 700 of such Local Boards of Health have been reported to this office and additional reports come to us daily.

4. The same law referred to (copy enclosed) makes obligatory the reporting of contagious diseases by all physicians to their respective Boards of Health and also requires the report of such cases by the Local Boards to this Board. The diseases specified are: Small-pox, scarlet fever, diphtheria, Asiatic cholera, or "other dangerous contagious diseases."

5th. No changes have been made in laws providing for the collection of vital statistics, and such statistics are now collected in such a way as to make the returns which are received of no practical value for sanitary purposes.

My answer to your last question: "How can medical men best promote sanitary progress?" in the briefest possible form would be: By the dissemination in popular form and by persistent efforts of that *and that only* as true, which is clearly proven to be so. I very much fear that the "advanced ideas," the setting forth as truth, that which is simply theory and the consequent necessary shifting of ideas and of teachings of medical men and medical organizations also, on sanitary questions, have retarded State and municipal sanitation.

Dr. F. D. Cunningham, of Virginia, furnishes the following brief statement concerning the present status of sanitary measures in that commonwealth:

"1st. There is no State Board of Health in Virginia at present. Several years ago the Legislature appointed one, but gave it no funds and assigned no specific duties, so that its existence, if any, is only nominal.

"2d. The cities of Richmond, Norfolk, Lynchburg, Petersburg, Staunton, Alexandria, and Danville have local Boards, with limited powers under municipal charters.

"The last Legislature authorized certain cities, as above, to make vaccination compulsory, during the past winter. Whilst our legislative bodies have practically ignored the subject of public sanitation in the places above named, the local boards have been reasonably active, and have done much to diminish the amount of contagious diseases, especially in the matter of small-pox and scarlet fever. In this State there is no examining board, nor is any education, medical or otherwise, required to obtain a license to practice medicine. In fact *any one* can get a license by paying five dollars to the State, in spite of all of our efforts to the contrary up to this time, both by individual and concerted action, before the Legislature. All of which is respectfully submitted."

From the brief report of Dr. M. G. Parker, representing Massachusetts, we copy the following items.

1. Massachusetts has a State Board of Health, Lunacy and Charity, which performs the duties of a State Board of Health, under the exisiting laws of the State.

2. No changes have been made during the past year in the organization, powers and duties of the Board.

3. It has no auxiliary, or local organizations.

4. Our public statutes specify only small-pox. The interpretation of the words "other diseases dangerous to the public health" are left to the discretion of Local Boards.

5. I also enclose a bill passed at the present session to compensate physicians and others for returning certificates of births. The fee allowed by the law is twenty-five cents for every certificate returned.

In closing this report I cannot do better than report to the Chairman of the present Board the advice given to the Board last year by my worthy predecessor Professor Henry I. Bowditch, M.D., of Boston, Mass., when he says:

"That State hygiene should not be connected with the charities certainly, and I doubt also whether it should be hampered by the care of lunatics of the State. Hygiene is enough for any Board.

"Again, I would suggest that all State Boards of Health should have physicians as Secretaries and Chairmen, and the majority should be physicians; and, finally, I deem it all-important to have a lawyer, a man of business, and a civil engineer, upon every Board."

From the report of Dr. Van S. Lindsly, of Tennessee, we copy the following:

2. No changes since the law of '79, except a vital registration law, by which the Secretary of the State Board of Health, was made the Superintendent of Vital Statistics. The reports being made

1st: By physicians and midwives, to the senior magistrate of each civil district, and they reporting to the County Court clerks, and they to Secretary yf the State Board of Health. This law was repealed by the Legislature of '83.

The law was practically inert—there being no renumeration to physicians, midwives or magistrates, they took no interest in the matter, and have made no reports. All parties concerned in the active operation of the law of vital statistics, opposed it, and made such efforts as to cause its repeal at the last Legislature, '83.

4. No changes made. The diseases enumerated as dangerous and communicable, etc., are: small-pox, yellow fever, cholera and other epidemic diseases.

It is within the powers of the Board to determine what are the othsr epidemic diseases.

Medical men can best promote sanitary progress, by

1st: Thoroughly informing themselves as to what is *true* and *practical* in sanitary medicine, and pre-

senting their ideas in plain language, before the people, in such journals and prints as will reach them.

2nd: By lectures before teachers and all those who have the instruction and guidance of the young, so that the incoming generation may have the proper ideas instilled into them as they grow into positions of responsibility and trust. The young will carry home ideas to parents, and often become the best propagators of new ideas to their elders.

I think the crude and imperfect methods of presenting sanitary reforms and the apparent mistakes of would-be reformers, in pushing so-called advanced ideas and radical measures of medical men and medical organizations, have retarded State and municipal sanitation. But this is no reason why better and wiser efforts in the future may not succeed.

The representative from Rhode Island, Dr. James H. Eldridge, makes the following concise statement:

1st. There is a State Borad of Health in Rhode Island, organized April, 1878.

2d. No changes have been made during the year ending May 1, 1883, in the organization, powers or duties of the Board.

3d. The public statutes make the town councils of the towns, and board of aldermen of the cities, the local Boards of Health, which are required to make report to the State Board when called upon, as by chapter 83.

SEC. 6. The Secretary of the said Board shall make inquiry from time to time, of the clerks of town and local Boards of Health, and practicing physicians, in relation to the prevalence of any disease, or knowledge of any known or generally believed source of disease, or causes of general ill health, and also in relation to the proceedings of said Boards of Health, in respect to acts for the promotion and protection of the public health, and also in relation to diseases among domestic animals in their several towns and localities respectively; and the said clerks of town and local Boards of Health, and the said practicing physicians, shall give such information, in reply to said inquiries, of such facts and circumstances as shall have come to their knowledge.

Town councils and boards of aldermen have also power to appoint other local Boards of Health, responsible to the appointing authorities, and with such power as the statutory local Boards are disposed to confer.

Some towns have so-called Boards of Health or Health Officers with limited powers by appointment of town council. The city of Providence has a Superintendent of Health.

There are also two independent or volunteer Sanitary Associations in the State.

4. No changes have been made in the Public Statutes during the year in regard to communicable diseases.

Very efficient laws in regard to small-pox have been in force for a number of years, and the disease has never been allowed to get any extension from the original cases.

No children are allowed to enter the public schools without efficient vaccination. The present Secretary of the State Board of Health introduced a bill in the General Assembly fourteen years ago requiring the towns to furnish gratuitous vaccination annually, and five years ago, for compulsory vaccination previous to entering the public schools.

Town councils may define what may be considered contagious or infectious diseases within their respective limits, and the statutes give the councils large powers in the restriction and prevention of the same.

5. No changes have been made in the statutes in relation to vital statistics. Some towns have passed an ordinance during the year requiring a burial permit from the town clerk previous to the removal of any deceased body, for the purpose of obtaining more prompt returns of death.

We have not space for selections from the remaining papers of this class, in the present number.

REVIEWS.

ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE OF THE UNITED STATES FOR FISCAL YEAR 1882.

The first part of this book is occupied by the annual report of the Surgeon-General, John B. Hamilton, to the Secretary of the Treasury. Following this are tables giving statistics in regard to the Marine Hospital service, and then selected cases from the hospital practice. This latter section contains accounts of many very interesting cases, both medical and surgical. The first of these essays is on "Cases of Rheumatic Effusions in Joints Treated by Aspiration," written by Surgeon H. W. Sawtelle. W. H. Heath has prepared "Notes on the Heatonian Method for the Permanent Cure of Hernia." These notes were made upon 17 cases which he had operated. Twelve cases proved successful; two were failures; two improved, and one met with an accident and resulted badly.

H. R. Carter describes a case of "Stab-Wound followed by Artificial Anus," on which a successful operation was performed. Chas. E. Banks has an excellent and quite exhaustive article on "Aneurismal Varix," and describes a case in illustration. Cases of "Aneurism" are described by C. A. W. Wheaton, C. E. Banks and C. S. D. Fessenden.

T. W. Miller gives the history of a case of epithelial cancer which he removed, but which speedily recurred, and resulted in death.

The first of the medical cases discribed is one of "Molluscum Fibrosum," by A. C. Hamlin. It is well illustrated by a micro-photograph. An account is also given of "Three Cases of Small-Pox" by W. D. Stewart.

The next ninety pages contain reports of fatal cases with autopsies. These include cases of a great variety of diseases, and are of much interest.

In the Appendix is an account of the "Hygiene of Steamboats on the Ohio River," by Walter Wy-

man. He finds in most cases no provision made for quartering the deck hands and laborers on the boats. The results of his investigations into this subject are expressed in the following sentence: "The man who ships as ordinary seaman in a whaling vessel, bound for a three years' cruise in the Arctic seas, stands a greater chance of returning with his life and health than does he who labors for one or two cold, winter seasons upon the deck of an Ohio River stern-wheel passenger steamboat."

TABULÆ ANATOMICÆ OSTEOLOGIÆ. Edited a CAROLO H. VON KLEIN. Cincinnati Lithographic Co.

The object of this book is to furnish figures of all the bones of the human body on which the points of interest are plainly designated. There is no text except the names and explanation of the points referred to in each figure. The peculiarity of the volume is that from the title-page to the end it is in Latin, except one short page of introduction which is in English. The value of such a work depends wholly upon the accuracy of the plates in their detail. The figures are not uniformly good. In many, points are referred to that cannot be seen at all, and very many others that cannot be plainly seen. For instance, on Tab. III, showing "caput ab anteriori," the place where the "sutura coronalis" should be is designated, but none can be seen in the figure. The same thing is true of the "apertura anterior canalis maxillæ inferioris s. foramen mentale;" and very many more could be pointed out in other figures. The plates are not equal to those in Gray's Anatomy.

THE ESSENTIALS OF BANDAGING; With Directions for managing Fractures and Dislocations, for Administering Ether and Chloroform, and for using other Surgical Operations, and containing a chapter on Surgical Landmarks. Illustrated by 136 Engravings on Wood, By BERKELEY HILL, M.B., Lond. F.R.C.S., 5th ed., pp. 341. New York, J. H. VAIL & Co.

In the term "Bandaging" the writer seems to have hit upon a general title which he makes to cover all the minor surgical appliances and manipulations.

Many of the topics discussed are in no way connected with the use of bandages as in the chapter on drawing teeth, the use of catheters ophthalmology, etc.

The book is a moderately complete treatise on that large class of mechanical procedures embraced neither by the principles of surgery on the one hand nor in operative surgery on the other, and falling, therefore, into neglect at the hands of those students whose clinical advantages have been curtailed. *Hospital Interne's Guide* would have been an accurate title for the work. It does in fact furnish in an admirably clear and simple form many chapters of practical information which will go far towards making up the deficiencies of those who have lacked hospital advantages.

It is growing more patent each year that the success of all surgical procedures depends largely upon the perfection of the minutiæ of preparation, operation and after-treatment. This result inevitably follows the development of specialties within specialties in large cities. It is in the knowledge of these minute details in which chiefly the educated general practitioner feels his deficiency, and, as these minor though essential particulars of modern surgery are being yearly improved in the hands of practical men, he feels more or less helpless in trying to keep up to the latest improvements in a wide range of diverse specialties.

Precisely the wants of such persons are attended to in the above work. The author has had the good sense to adopt a practical as opposed to a "systematic" arrangement of his topics. Elaborate and theoretical bandages with queer, obsolete names and many tails—bandages which look well only on a healthy limb, or a manikin before a class, are banished as they should be—and clear, concise and adequate directions are furnished for adjusting and dressing each of the fractures and dislocations, after the most approved method, or methods now known.

The elementary lessons describing the names and uses of bandages, and the bandaging of different regions are simplified and condensed so as to occupy but twenty-five pages of the three hundred and forty one pages composing the book.

Careful instructions follow in the use of eye and ear syringes, the care of bed-sores, of hot and cold baths and irrigation, of trusses, of leeches, cupping, drainage tubes and issues.

The various anæsthetics and their means of administration are described. Full directions for antiseptic draining, the best methods of employing boracic acid, iodoform and chloide of zinc, and how to apply Leoitir's tubes will be found in the fifth chapter. A considerable portion of the book is occupied with a description of the surface guides (surgical landmarks) of the various regions, and in an appendex are complete tabulated lists of the instruments and other apparatus necessary for each of the more common surgical operations.

The author very properly lays stress upon the value of carbolized oil (1 to 10 or 20), which although very early advocated by Lister, for a variety of purposes has not been properly appreciated in America.

The book is to be commended for its fairness in expressing not only English but American methods of practice and is worth the examination, not merely of students, but of nearly every physician who has to deal with surgical cases.

OBSERVATIONS ON THE MANAGEMENT OF ENTERIC FEVER, ACCORDING TO A PLAN BASED UPON THE SO CALLED SPECIFIC TREATMENT. Read before the College of Physicians, of Philadelphia, January 3, 1883. By JAMES C. WILSON, M.D., Physician to the Jefferson Medical College Hospital, and to the Philadelphia Hospital. Extracted from the Transactions of the College of Physicians, 3rd Series, Vol. VI.

This is the title of a neatly printed pamphlet of only thirteen pages, but containing matter of interest concerning the treatment of one of the most common and important diseases with which the practitioner

has to deal. That the expectant and alcoholic treatment of typhoid fever which has predominated in the profession during the last twenty years is unphilosophical, and attended by a ratio of mortality altogether higher than it would be under any system of treatment founded on the rational indications afforded by a study of the clinical history and pathological changes developed by the disease, we have had occasion to point out many times, and to demonstrate by reference to statistical results. It is therefore in accordance with the natural tendencies of the human mind, to pass directly from an unsatisfactory expectancy to a search for specifics. It is in obedience to this tendency that during the last decade we have had in succession the treatment by cold baths, heroic or anti-pyretic doses of quinine, salicylic acid, digitalis; and finally mercurials, iodine, and salicylate of bismuth, as specifics.

That calomel can be made useful in the treatment of the early stage of typhoid fever by its judicious administration in the early stage, was demonstrated by the common practice of the mere skillful part of the profession, half a century since.

That iodine, not as a specific, but as a general alterant is well calculated to counteract the universal molecular derangements existing in this fever, is capable of being so administered as to very favorably modify the progress of the disease, has been demonstrated by myself and others during the last two years. But our present object was simply to call attention to the specific plan recommended by Dr. Wilson in the paper before us, which is as follows:

So soon as the patient is found to have enteric fever, or, in many instances, so soon as his symptoms warrant a reasonable suspicion that he is about to develop it, he is put to bed, ordered a diet consisting of milk, animal broths, jelly, and simple custards, in small amounts, and at intervals of two or three hours. At night he is given a dose of calomel. This dose varies in amount from 7½ to 10 grains (0.5 to 0.66 gramme), and is repeated every second evening until three, or rarely four doses have been administered in the course of the first six or eight days. It is given alone or in connection with sodium bicarbonate. There is probably a slight increase of diarrhœa, if it be present, without aggravation of the other symptoms, and in some instances the tendency of the temperature at this time to steadily rise, appears to be controlled. If, as is frequently the case, spontaneous diarrhœa has not occurred in the first week, the calomel usually brings about two or three large evacuations on the day following its administration, not more. In either case, the tendency to frequent passages in the latter stages of the attack is favorably influenced by the repeated administration of this drug during the first week. If the case does not come under observation until after the tenth day, one only, or at most two doses of calomel are given. No further doses of it are, however, given during the course of the attack, unless constipation occur. In this event, if the evidences of extensive or deep implication of the intestinal wall, such as abdominal pain, tenderness, or marked tympany are absent, calomel in 7½-grain (0.5 gramme) doses is given at intervals of three or four days. If there is reason to suspect serious intestinal lesions, the lower bowel may be more safely emptied of its contents every third or fourth day, by enemata of moderate size (8 to 10 fluid-ounces.) It is necessary to bear in mind that the gravest lesions of the gut, leading even to hæmorrhage and perforation, have occasionally been observed in cases characterized, not only by constipation, but also by an entire absence of pain or tenderness, and very moderate tympany. The danger of salivation from calomel in these doses in enteric fever appears to be slight. In only one case in sixteen were the mercurial fetor and slight swelling of the gums observed.

Excessive diarrhœa has been controlled by the use of opium, either in suppositories, containing 1 grain (0.06 gramme), or by the mouth in quarter-grain (0.016 gramme) doses, often associated with bismuth and given *pro re nata*. It is an invariable rule that the patient be kept in the horizontal position and to the use of the bed-pan and urinal, from the time of the recognition of the disease until defervescence is completed. He is, however, turned upon his side from time to time, and made to maintain that position for twenty or thirty minutes, if necessary, being supported by the nurse.

From the beginning of the attack the following mixture is regularly administered in doses of one, two, or even three drops, in a sherry-glassful of ice-water after food, every two or three hours during the day and night.

℞.	Tinct. iodinii,	f℥ij.	8	∞ c. c.
	Acid. carbolici liq.	f℥j.	4	∞ c. c.
	M.			

Unless some unusual circumstances occur to render a change necessary, this medicine is not suspended until the attack draws to a close. It is well borne by the stomach and excites no repugnance on the part of patients. In one case only has it been necessary to omit the carbolic acid on account of the disgust caused by its odor.

Partly for the sake of its favorable influence upon the skin and for the sake of cleanliness, partly because of its favorable though slight influence upon the temperature, the patient is to be sponged twice a day with equal parts of aromatic vinegar or alcohol, and cold water. If it is more grateful to him, this sponging may be done with tepid water, the evaporation of an extensive film of water not below the temperature of his body probably being not wholly without a refrigerating tendency.

When the evening axillary temperature reaches 104° F. (40° C). quinine in massive doses, 24 to 30 grains (1.66 to 2.00 grammes) is given upon a falling temperature. I usually direct 8 to 10 grains to be given in solution at 5, at 5:30, and at 6 A. M. the following morning. Administered thus at the decline of the temperature in its diurnal revolution, these large doses of quinine depress it from 2.5° to 3.5° F. (1.4° to 1.8° C.). After the lapse of forty-eight to seventy-two hours, if necessary the dose may be repeated. If these doses be rejected by the stomach—an unusual circumstance—half the quantity of quinine may be administered hypodermically. For this purpose a citric acid solution is to be pre-

ferred. Since the adoption of the plan of treatment under consideration, I have not encountered cases attended with such hyperpyrexia as has rendered attempts to control it by cold baths necessary or even advisable.

The minor nervous symptoms are best held in check by skilful nursing. For the relief of the headache of the first ten days absolute quietude, a dim light, etc., are often sufficient; occasionally the bromides alone or in combination with chloral are required. Later in the course of the disease chloral is unsafe. From the end of the first week the patient cannot be left unattended even for a few minutes, without risk. Persons in whom delirium was only occasional and transient, have in many instances destroyed themselves during the momentary absence of the nurse.

The considerations which led me to adopt the plan of treatment indicated in the foregoing sketch, are:

1. A feeling of dissatisfaction regarding the expectant method of treating enteric fever. This feeling, vague at first, grew more definite and stronger with increasing clinical opportunities, and a fuller knowledge of the natural history of the disease, until it became a motive, impelling me to cast about for some different and more satisfactory plan. This feeling has been, during the past decade, a very general one in the profession in all parts of the world, as is attested by an almost endless succession of journal articles setting forth new plans of treatment, and the use of new drugs in the management of this, the most common and most important of the acute infectious diseases of the present epoch in medical history. Most of the plans thus suggested have led to disappointment when tested by the fuller observations of the profession; many of them have failed to attract general attention, and some few are still *sub judice*. Their number and diversity bear witness to a widespread distrust of the once well-established expectant treatment. This distrust is, however, based upon something more tangible than a mere feeling of dissatisfaction. The statistics of all observers whose cases have been sufficiently numerous to be trustworthy, show enteric fever to be, when treated by the expectant plan, a disease of high death-rate.

The percentage of fatal cases rarely falls below 15 per cent., and often exceeds 25 per cent., according to the hospital records of this country, Great Britain, and Continental Europe. Jaccoud, with a collection of 60,000 cases, observed a mortality of 20 per cent., Murchison, in 27,051 cases, 17.45 per cent.; Liebermeister, in 1718 cases, at Basle, under an expectant plan, records 27.3 per cent. of deaths. But turning from broad generalizations to personal experience, who is there here that, many times elated by the happy issue of mild or average cases treated by the expectant plan, has not realized the sense of utter powerlessness attending it when he has stood face to face with cases in which *to do*, rather than *to wait*, has been necessary to save life.

2. Enteric fever is the very type of the general diseases, of affections *totius substantiæ*. The tissues are universally implicated in the morbid processes; no function of the body wholly escapes perturbation. For this reason, plans of treatment suggested by the prominence of certain groups of symptoms, or by the known lesions of particular organs, even though of undoubted benefit as far as they go, are in theory unsatisfactory, because they are directed in effect against conspicuous manifestations of the cause of the sickness, rather than against the cause itself.

Whilst in actual practice the treatment by turpentine, by alcohol, by opium with lead, or the silver nitrate, or by agents capable of controlling the febrile movement, as quinine, digitalis, salicin, and the salicylates, even the cold-water treatment itself, although at times and in the hands of certain clinicians showing favorable results—all these have failed of general acceptance on the part of the profession.

3. The general character of the disease, the specific nature of its cause, the unsatisfactory results alike of an expectant and of a symptomatic plan of treatment, or rather of the two combined, have united to render the idea of a specific treatment, a true cure for enteric fever, a most attractive one, to stimulate thoughtful observers to renew again and again the disappointing search for it. To this idea may be traced the treatment by the mineral acids, by chlorine-water, by carbolic acid, by quinine alone, by quinine and digitalis, by iodine, by the potassium iodide, by calomel.

4. Not only is the conception of a specific treatment for specific diseases a most attractive one, and the attainment of such a treatment for enteric fever brought within the bounds of a reasonable hope by the analogy of syphilis and the malarial diseases, but the search after it with due caution and judgment has also the warrant of the very highest medical authority.

The *total number of cases treated* by this plan is sixteen; all recovered, one being now in the second week of convalescence.

Of these, eight were severe, the temperature reaching or exceeding 104° F. (40° C.).

Of these eight severe cases, one was characterized by uncontrollable vomiting, in the third week. The patient retained no food taken by the mouth for five consecutive days.

One case was very irregular in its course, and was complicated by an obscure abdominal abscess which discharged by the bowel. The temperature in this case on two occasions attained 105° F. (40.5° C.). This case presented the characteristic eruption of enteric fever.

A third case was prolonged by a severe relapse.

Of the eight cases in which the observed temperature did not at any time attain 104° F. (40° C.), and which were therefore looked upon as medium or mild cases, one was complicated hy crural phlebitis, and another by the occurrence of tntestinal hæmorrhage.

The average duration of the eight severe cases was about 31 days; that of the eight mild and medium cases was about 25 days.

Of the whole number ten were treated in hospital, six in private practice. All from the time of their coming under observation were under my personal care.

MEDICAL SOCIETY PROCEEDINGS.

At the late meeting of the American Dermatological Association, held August 29 to 31, at Sagamore House, on Lake George, Dr. Piffard, of New York, read a paper on the treatment of acne. Ætiology, he declared, was the main thing to be examined into. In acute cases the calx. sulphurate in small doses was thought to be excellent; also bromide of arsenic. Locally hot water applications were recommended; sometimes a weak belladonna or stramoniun ointment proved beneficial. In chronic cases the sulphide of calcium must be pushed. In some ergot, and in others the bichloride of mercury prove useful. Dr. Graham, of Toronto, presented a paper on Exfoliative Dermatitis. He thought the disease more common than is usually supposed. He recognized two varieties, one he called dermatitis exfoliativa rubra, the second dermatitis bulbosa et exfoliativa. Dr. Stelwager read a paper on Impetigo Contâgiosa. He had examined a great many cases, but failed to find in the vesicles any fungus such as has been described by Kaposi and Piffard. Micrococci, such as are to be seen in pustular eczema he discovered, but none of the supposed characteristic fungus, except in a few dried crusts. He regards the disease as an acute systemic affection, capable of auto-inoculation; as not parasitic; not related to vaccinia, but a distinct and separate disease.

Dr. Atkinson, of Baltimore, read a paper on a case of Multiple Cachectic Ulceration. It occurred in a child. At first there was some itching and papulation, then vesiculation, and finally ulceration, which extended down to the bone. There was much debility, but not a great deal of pain. Tonics, it was thought, were indicated. Prognosis was good, although deep scarring was liable to occur.

Dr. Van Harlingen read a paper on the use of naphthol. He thought it useful in scabies, somewhat so in psoriasis, but of little use or hurtful in eczema.

Dr. Fox described a trip to the leper settlement at Tracadie. There were there twenty-four lepers. Three cases he thought were not leprosy. The patients, although receiving no medical treatment, were well cared for. In regard to the disease, he said that on account of its rapid spread at times through communities, it could not be transmitted by heredity alone. He thought, that like syphilis, it was directly contagious. In the way of treatment much has been accomplished, in some cases by the use of large doses of nux vomica, internally, and shaulmoogra oil, externally.

A paper on Paget's disease was read by Dr. Sherwell. There was in these cases burning and itching, like eczema. The nipple was gradually obliterated; its retraction, when it occurred, could not be distinguished from cancer. Its malignant papillary character distinguished it from eczema. The duration of one case observed by the author, was over twelve years, and a second lasted longer than the time assigned to it by Paget.

Dr. Morrow, of New York, read a paper on the Pathogenesis of Drug Eruptions. He described the various theories that have been offered to explain their origin. He himself thought they were due to a neurotic action.

Dr. Taylor, of New York, described the Polymorphous Changes Observed in the Tubercular Syphilide, and illustrated the subject by a number of colored photographs.

In a paper by Dr. Sherwell, of Brooklyn, the belief is expressed that pseudo-psoriasis of the palm is indication of a syphilitic taint, and he related a case in example. Dr. Alexander, followed, with a paper describing cases in which no syphilitic taint could be detected.

A paper was then read which had been written by Dr. Hyde, of Chicago, on the Coincidence of Syphilitic and Non-syphilitic Affections of the Skin.

Dr. Taylor, of New York, described a peculiar appearance of the initial lesion of syphilis. He had had opportunity to examine several cases from the very beginning. In two he noticed first one or more spots quite small and silvery-white, looking as though they might have been caused by touching the mucus membrane with the tip of a crayon of nitrate of silver. A few days later a papule devclops, and then the typical chancre. In other cases there first appears a round, excoriated spot, quite minute and dark-red. In still other cases the papule siche of French authors, first appear. A paper from Dr. Duhring, was read on cases of Lupus Erythematosus, which was greatly helped by the following formula,

℞ Zinci Sulphatis:

Potasii Sulphureti.....	āā ʒ ss.
Aquæ Rosæ.....	ʒ iii ss.
Alcoholis.....	ʒ iii.

The surface to which this is to be applied should be first thoroughly cleansed of crusts, etc.

A second paper, by the same author was read, on Ainhum, with microscopic examinations, which went to show that the member had been strangulated by a cord or other means, applied intermittingly.

Dr. Hardaway, of St. Louis, described a chronic papular eruption, which occurred mostly in children. It was characterized by its dull, light yellow color, its psudo-vescicular appearance. Usually each papule is about the size of half a pea. It is slightly itchy. Spontaneous recovery occurred.

Dr. Graham, of Toronto, described a case in which there was a peculiar new growth on the skin of the fore arm. It resembled elephantiais or lymphangioma. It is of very rapid growth, now hanging like a bag from the arm. When the limb is raised it diminishes much in size. He thought it a dermatolytic outgrowth with dilatation of the lymph channels.

The following are the officers for the ensuing year: Dr. R. W. Taylor, of New York, President; Dr. A. Van Harlingen, of Philadelphia, and Dr. J. E. Graham, of Toronto, Vice-Presidents; Dr. W. Alexander, of New York; Secretary; Dr. G. H. Rohe, of Baltimore, Treasurer. The next meeting will be held in September, 1884, at West Point.

DR. FISCHER, a Privat-Docent, has been appointed extraordinary Professor of Surgery at Strassburg; and Professor E. Baumann goes from Freiburg to Breslau as ordinary Professor of Physiology.

MISCELLANEOUS.

AMERICAN PUBLIC HEALTH ASSOCIATION.

We again call attention to the coming meeting of this important national organization by giving the following notice received from the Secretary—[ED.]:

SECRETARY'S OFFICE—PRELIMINARY CIRCULAR.

12 PEMBERTON SQUARE, BOSTON,
July 16, 1883.

The American Public Health Association will hold its Eleventh Annual Session at Detroit, Mich., commencing Tuesday, November 13, 1883, and ending Friday, November 16.

The subjects which have been chosen for special consideration at that time are:

I. MALARIA. Its etiology and the methods for its prevention in localities or in persons; its American history; its specific particles; its origin; the conditions of its pervasion; its laws of extension, etc.

II. FOODS. Their adulterations; healthy or deleterious modes of preservation and the function of legislation in regard to them. Ascertained facts as to adulterations in this country. Facts as to canned goods, condensed milk, artificial butter and cheese, prepared meats, etc.

III. VITAL STATISTICS. Methods and results; defects apparent. How far foreign modes of tabulation are to be followed. Systems of collection and classification. Race vitality and the care of population as indicated by statistics.

IV. THE CONTROL AND REMOVAL OF ALL DECOMPOSABLE MATERIAL FROM HOUSEHOLDS. The mechanical laws, constructions and appliances relative thereto. The construction of all inside pipes and their connections, their traps and syphonage, flushing, ventilation. How they shall be connected with outdoor receptacles, and yet be free from ill effect.

The Executive Committee by this outline desires to avoid general dissertations on these subjects, and to secure facts and opinions as to practical methods of dealing with the interest of public health. Reasons for the views entertained, the results of experience and the best judgment as to preventive and restrictive measures are especially sought.

Methods and systems of Physical Education, drill, etc., feasible in the school-room, will be discussed. While papers of merit on other topics are by no means excluded, it is believed wise to concentrate the preparation of papers and discussion upon these topics.

The Special Committees on Compulsory Vaccination, the Management of Epidemics, and on Diseases of Animals, will, before the completion of their Reports, be glad to receive communications from any who have facts or opinions bearing on these subjects.

Active and Associate Members have the same consideration in the presentation of papers, and in discussion. Gentlemen who propose to present papers are respectfully requested to notify the Secretary by September 1, and to give the titles of their proposed papers.

The Executive Committee insists that a synopsis of the papers to be offered, and statement of the time required for reading, be sent to the Secretary by October 15, and that the paper complete be in the hands of the Secretary at least three days before the meeting, having been sent by mail or express either to his office at Boston, or care of Dr. Wm. Brodie, Detroit, Mich., after November 9.

The Executive Committee feels warranted in saying that the meeting promises to be one eminently inviting and profitable, and urges the attendance and cooperation of physicians, engineers, architects, teachers, and all those interested in the advancement of public health and physical well being.

Inquiries of a local character may be addressed to Wm. Brodie, M.D., Chairman Local Committee, Detroit, Mich.

A later circular, giving such detailed information as to local points, programme, transportation, etc., as may be available, will be issued in due season before the meeting.

If any member entitled to them has failed to receive Vols. VII or VIII of the Transactions (Savannah and Indianapolis meetings), the Treasurer, Dr. J. Berrien Lindsley, Nashville, Tenn., should be notified.

EXTRACT FROM CONSTITUTION. ART. III.

The members of this Association shall be known as Active and Associate. The Executive Committee shall determine for which class a candidate shall be proposed. The *Active* members shall constitute the permanent body of the Association, subject to the provisions of the Constitution as to continuance in membership. They shall be selected with special reference to their acknowledged interest in, or devotion to, sanitary studies and allied sciences, and to the practical application of the same. The *Associate* members shall be elected with special reference to their general interest only in sanitary science, and shall have all the privileges and publications of the Association, but shall not be entitled to vote. All members thall be elected as follows:

Each candidate for admission shall first be proposed to the Executive Committee in writing (which may be done at at any time), with a statement of the business or profession, and special qualifications of the person proposed; on recommendation of a majority of the Committee, and on receiving a vote of two-thirds of the members present at a regular meeting, the candidate shall be declared duly elected a member of the Association. The annual fee of membership in either class shall be five dollars.

By order of the Executive Committee.

AZEL AMES, JR., *Secretary.*

THE following, as we learn from the North Carolina *Medical Journal*, is the gist of the new medical practice law of Mississippi:

It *requires that no person shall practice medicine until he shall have received a license, and registers; that a Board of Censors shall be established in each Congressional District to examine into the qualification of applicants;* the Board of Censors shall be composed of two sanitary commissioners, and if these disagree in their opinions about the qualifications, that the record of examination shall be forwarded to the Secretary of the State Board of Health to decide; that the examination of candidates shall be in writing, and that no discrimination shall be made against the applicant on account of the system of practice he may advocate; that applicants shall be examined only on anatomy, chemistry, obstetrics, materia medica, physiology, pathology, surgery, hygiene; that

the license when issued by the Board of Censors shall be registered; temporary license may be granted by the Secretary of the State Board of Health in the interval of the meeting of the Board of Censors, but no longer; that physicians now practicing shall receive license without examination upon showing certain requirements; applicants for license making false statements shall be adjudged guilty of a misdemeanor, and liable to $25 fine, and revocation of license; that "practice of medicine" shall be defined "to suggest, recommend, prescribe or direct for the use of any person, any drug or medicine, appliance or other agency; whether material or not material, for the cure, relief or palliation of any ailment or disease of the mind or body, or for the cure or relief of any wound, fracture or other bodily injury, or any bodily deformity," for fee or reward, excepting females solely engaged in midwifery; that peripatetic quacks shall not be licensed; that judges shall give grand juries at every term a copy of this act; that to violate this act is a misdemeanor punishable by a fine of not less than $50, or more than $500, or by imprisonment in the county jail.

THE Pennsylvania and Maryland Union Medical Association held its sixth annual meeting near Chambersburg, Pa., on the 30th of August, Dr. W. W. Dale, of Carlisle, Pa., in the chair. It is composed of representatives from the medical societies of the counties of Franklin, York, Lancaster, Chester, Lebanon, Cumberland, Perry, and Dauphin, in Pennsylvania, and Harford and Cecil, in Maryland. Dr. J. L. Zeigler, of Mount Joy, was elected President for the coming year; Dr. S. B. Keefer, of Carlisle, and Dr. John Lineaweaver, of Columbia, Vice-Presidents; and Dr. S. J. Rouse, of York, Secretary and Treasurer.

IN the last issue, we called attention to the trouble that had arisen at the College of Medicine and Surgery in Montreal. Since then we learn that a telegram has been received from Cardinal Simeoni, at Rome, allowing the school to open as usual.

OFFICIAL LIST OF CHANGES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY FROM AUGUST 31, 1883, TO SEPTEMBER 7, 1883.

Shufeldt, Robert W., Captain and assistant surgeon, granted leave of absence for three months on Surgeon's certificate of disability, with permission to leave the Department of the South. (Par. 3, S. O. 204, A. G. O., September 5, 1883.)

Wakeman, W. J., 1st Lieutenant and assistant surgeon, assigned to temporary duty at Fort Sidney, Nebraska, (Par. 2, S. O. 92, Department of the Platte, August 28, 1883.)

NECROLOGICAL.

FORD, LEWIS DESAUSEURE, M.D., of Augusta, Georgia, was born at Washington's headquarters, Morristown, New Jersey, December 30, 1801, died at his residence in Augusta, August 21, 1883. Having received a good academical education, he studied medicine, and after attending the usual course of lectures, he received in 1822 the degree of M.D. from the College of Physicians and Surgeons of New York. The same year he removed to South Georgia, and thence to Augusta in 1827. Dr. Ford assisted in organizing the Medical College of Georgia in 1832. He was elected to a professorship in the institution, and has held a chair in it up to within the last two years, when he resigned. He has held at different times the chair of Chemistry and that of Practice. He was learned, popular, and practical. He was laborious and painstaking in all his work, and beloved by all who knew him. He was at the same time one of the oldest physicians and oldest citizens of Augusta. His portrait adorns the City Hall in recognition of his having been a worthy Mayor of Augusta. Doctor Ford contributed some valuable papers on paroxysmal fevers, as seen in the South between the years 1836 and 1845, and published in the *Southern Medical and Surgical Journal*, and are frequently referred to by writers. He was a member of the Georgia Medical Society. He attended the meetings of the American Medical Association in 1849 and in 1851. He leaves a wife, three sons and three daughters. Two of his sons are members of the profession which their father adorned, and labored so zealously to advance in usefulness and dignity. Dr. Ford's funeral took place from St. Paul's Episcopal church, and was very largely attended. The City Council and the medical profession attended in a body.

J. M. T.

RAINES, THOMAS R., of Atlanta, Georgia, was born in Bibb county, Ga., in 1833; died, after a brief illness, at his residence in Atlanta, August 31, 1883. The doctor was descended from one of the oldest families of the colony and the State. He received a good preparatory education, and was well grounded in his profession, and actively and profitably employed in it when the war broke out. Dr. Raines entered the military service of the Confederacy, and devoted himself to the relief of the suffering of his companions until the cause went down at Appomattox. Broken in health and in fortune, he returned to his State and took up a residence and large practice at Atlanta, and by his worth and devotion to its duties soon acquired business, and the confidence and respect of the community. Gov. Colquitt, during his first term of office, appointed Dr. Raines physician to the State Penitentiary, an office which he filled, with credit to himself and to the satisfaction of the Governor, until his death. The doctor leaves a wife, two daughters, and several sons. He was a member of the Atlanta Academy of Medicine, the State Medical Society, and of the American Medical Association since 1880. Dr. Raines was extensively known throughout the State, and regret for his death, both as a citizen and a physician, is very general. His funeral was attended by the "Gate City Guard," of which company he was surgeon, and by a large concourse of friends and citizens.

J. M. T.